

Available Datasets

Eamonn Daly
ESA/ESTEC

Outline:

- Issues
- “Other” data sources
- Dataset activities to consider

There is plenty of data

Data by Spacecraft - Microsoft Internet Explorer

File Edit

Back

Address

Space Physics
Space Science Data NSS

Access data by: Spacecraft or Service |
Trajectories | Models | Other Resources |

Data by Spacecraft

Spacecraft:

- ACE
- Aeros
- Alouette
- AMPTE
- ARCAD
- Atmospheric Explorer
- Cluster
- Cosmos900
- CRRES
- Dynamics Explorer
- Equator-S
- Explorer_22_31
- FAST
- Genesis
- Geotail
- GOES series
- Granat**
- Hawkeye
- Helios 1
- Helios 2

Service:

Anonymous FTP

Service Homepa

CDAWeb Source Selector Form

Select one or more Sources:

- ☐ ACE
- ☐ CRRES
- ☐ Cluster
- ☐ DMSP (selected links only)
- ☐ Equator-S
- ☐ FAST
- ☐ Genesis
- ☐ Geotail
- ☐ IMAGE
- ☐ IMP7 (selected links only)
- ☐ IMP8
- ☐ Interball
- ☐ OMNI (Merged 1AU IP Data)
- ☐ Polar
- ☐ SAMPEX
- ☐ SOHO
- ☐ TIMED
- ☐ Ulysses
- ☐ Wind
- ☐ Geosynchronous Investigations
- ☐ Ground-Based Investigations

Select one or more Instrument Types:

- ☐ Activity Indices

(Some) Issues

- Data set identification
- Data set availability and to whom
- Quality: models are for quantitative applications (esp. engineering) so data have to be reliable
- Availability of history:
 - Instrument details
 - Calibration details
 - Response simulation details
 - Bugs and problems documented
- Reproducibility of products from datasets
- Continuity

“Janet’s Tables”; Many have been discussed already, but there are others...

Environment Feature	Range	Instrument	Platform	Orbit	Epoch	Availability	POC
Energetic electrons	1eV - 81keV 64 channels		ATS-6	GEO; 1.8deg	7/74-2/76	Archive	Henry Garrett; http://hssdc.gsfc.nasa.gov/
	50eV - 50keV 62 channels	Bi-Dir LEPA	ATS-5	GEO; 2.5deg	11/69-11/70	Archive	Henry Garrett; http://hssdc.gsfc.nasa.gov/
	30eV - 30keV 20 channels	SSJ/4	DMSP	LEO (~820km) 99deg	12/82-present	real-time archive	US Air Force Weather Agency Space Weather Operation Center
	1eV - 40keV 40 channels	MPA	DoD	GEO	1989-present	real-time archive	Michelle Thomsen, LANL
	> 0.6 MeV > 2 MeV	EPS	GOES	GEO	Jan 86 - present	real-time archive	NOAA/SEC http://www.sec.noaa.gov/today.html NOAA/NGDC http://www.ngdc.noaa.gov/stp/GOES/goes.html
	53keV - 5.1MeV	MES	OV1-19	466-5764km incl=104.7	3/69 - 3/70	Archive	Alfred Vampola, Space Environment Effects, Vista, CA
	50keV - 26 MeV 16 channels	SOPA	DoD	GEO	1989 - present	real-time archive	Air Force Weather Agency (military only) Los Alamos http://leadbelly.lanl.gov/lanl_ep_data/
	30keV - 2MeV 12 channels	CPA	DoD	GEO	1976-1995	Archive	Air Force Weather Agency (military only) Los Alamos http://leadbelly.lanl.gov/lanl_ep_data/
	0.4-30 MeV	PET	SAMPEX	L=1.8-12	July/92 - Present	Archive	Joe Mazur (??) Aerospace
	>30 >100 >300keV	MEPED	Tiros-N; NOAA-6,8, 10,12,14	850km, 99deg	1979-1995	Archive	Stuart Huston; http://www.ngdc.noaa.gov/stp/NOAA/noaa_poes.html
	5 eV - 5 MeV	PEM	UARS	575km, 57deg	9/91 - ?	Archive	Geoff Crowley, Southwest Research Institute
		REM	MIR	~51, 450 km	11/94-11/96	Archive	Eamonn Daly
	>1 >2 MeV	REM	STRV-1b	GTO	8/94 - 8/98	Archive	Eamonn Daly
		SREM	PROBA-1	553 X 677km; 98deg	Oct/01 - Present	Archive	Eamonn Daly
			Integral	639 X 153,000km; 52deg	Oct/02-Present	Archive	Eamonn Daly
	20keV - 3MeV	CEPPAD	Polar	11,500km X 57,000km Polar	1996-present		Bern Blake, Aerospace; ftp://pwgdata.gsfc.nasa.gov/pub/00readme.html
	100eV - 80 MeV	IES	HEO	High incl.	1994?		Bern Blake, Aerospace;
	100keV - 1.7MeV	MEA	CRRES	350km X 33,584km; 18deg	7/90-10/91	archive	Alfred Vampola, Space Environment Effects, Vista, CA ftp://hssdcftp.gsfc.nasa.gov/spacecraft_data/crres/particle_mea/
	1-10 MeV	HEEF	CRRES	350km X 33,584km; 18deg	7/90-10/91	Archive	Donald Brautigam, AFRL

Energetic Protons	1eV - 81keV 64 channels		ATS-6	GEO; 1.8deg	7/74-2/76	Archive	Henry Garrett; http://hssdc.gsfc.nasa.gov/
	50eV - 50keV 62 channels	Bi-Dir LEPD	ATS-5	GEO; 2.5deg	11/69-11/70	Archive	Henry Garrett; http://hssdc.gsfc.nasa.gov/
	30eV - 30keV 20 channels	SSJ/4	DMSP	LEO (~820km) 99deg	12/82- present	real-time archive	US Air Force Weather Agency Space Weather Operation Center
	1eV - 40keV 40 channels	MPA	DoD	GEO	1989- present	real-time archive	Michelle Thomsen, LANL
	17-717keV; >0.7MeV, >3.3MeV	Energ. Proton Detector	SCATHA	27,553km X 43,239km 7.7deg	1979-1990?		Aerospace Corp. (Joseph Fennell?)
	30keV-2.5MeV; >16, >36, >80	MEPED	Tiros-N; NOAA-6,8, 10,12,14	850km, 99deg	1979-1995	Archive	Stuart Huston; http://www.ngdc.noaa.gov/stp/NOAA/noaa_poes.html
	50keV - 50MeV 15 channels	SOPA	DoD	GEO	1989 - present	real-time archive	Air Force Weather Agency (military only) Los Alamos http://leadbelly.lanl.gov/lanl_ep_data/
	1-100MeV	Hi-E Particle Detector	SCATHA	27,553km X 43,239km 7.7deg	1979-1990?		Aerospace Corp. (Joseph Fennell?)
	1-100MeV	PROTEL	CRRES	350km X 33,584km; 18deg	7/90-10/91	Archive	Donald Brautigam, AFRL; ftp://hssdcftp.gsfc.nasa.gov/spacecraft_data/crres/particle_protel/
	100eV - 200MeV	PEM	UARS	575km, 57deg	9/91 -?		Geoff Crowley, Southwest Research Institute
	18-250 MeV	PET	SAMPEX	L=2-12	July/92 - Present	Archive	Dick Mewaldt
		REM	MIR	~51, 450 km		Archive	Eamonn Daly
		REM	STRV-1b	GTO		Archive	Eamonn Daly
		SREM	PROBA-1		Oct/01 - Present	Archive	Eamonn Daly
		SREM	Intergral	10,000-	Oct/02- Present	Archive	Eamonn Daly
	80 kev - 3 MeV	MES Proton Telescope	S3-3	360-8200km polar	7/76-4/79	Archive	Alfred Vampola, Space Environment Effects, Vista, CA
	20 keV -17 MeV	CEPPAD	Polar	11,500km X 57,000km Polar	1996- present		Bern Blake, Aerospace; ftp://pwgdata.gsfc.nasa.gov/pub/00readme.ht
	20 keV - 10 MeV	IES	HEO	High incl.	1994?		Bern Blake, Aerospace
Composition	Mass Spec 1 - 200 keV	IES	Polar	Polar			Bern Blake, Aerospace
	Mass Spec 1 - 200 keV	IES	HEO	High incl.			Bern Blake, Aerospace

Data selection

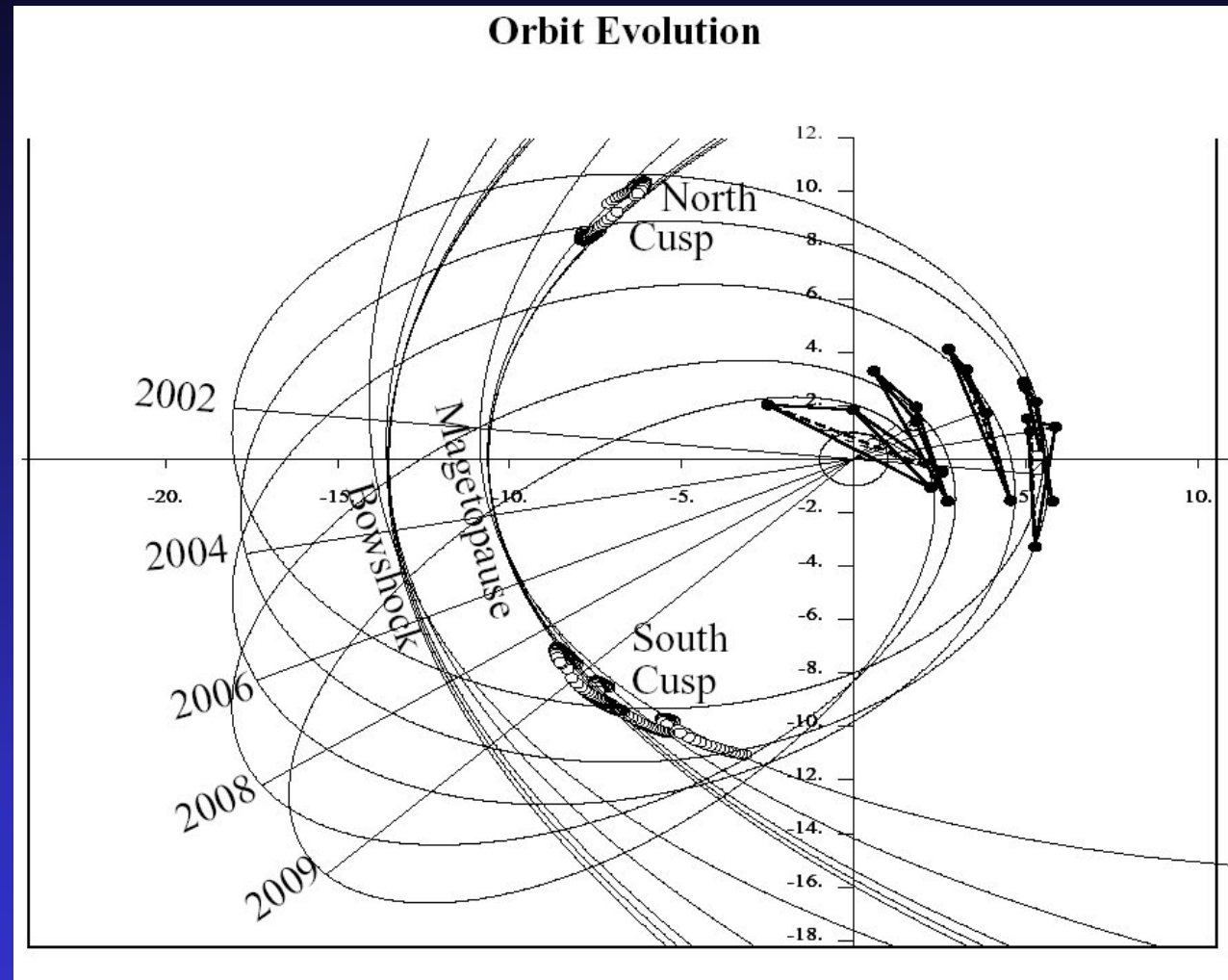
- Is it what, where and when we want it?
- Are the ancillary data there?
- Are the people there?
- The value of “simple” monitors

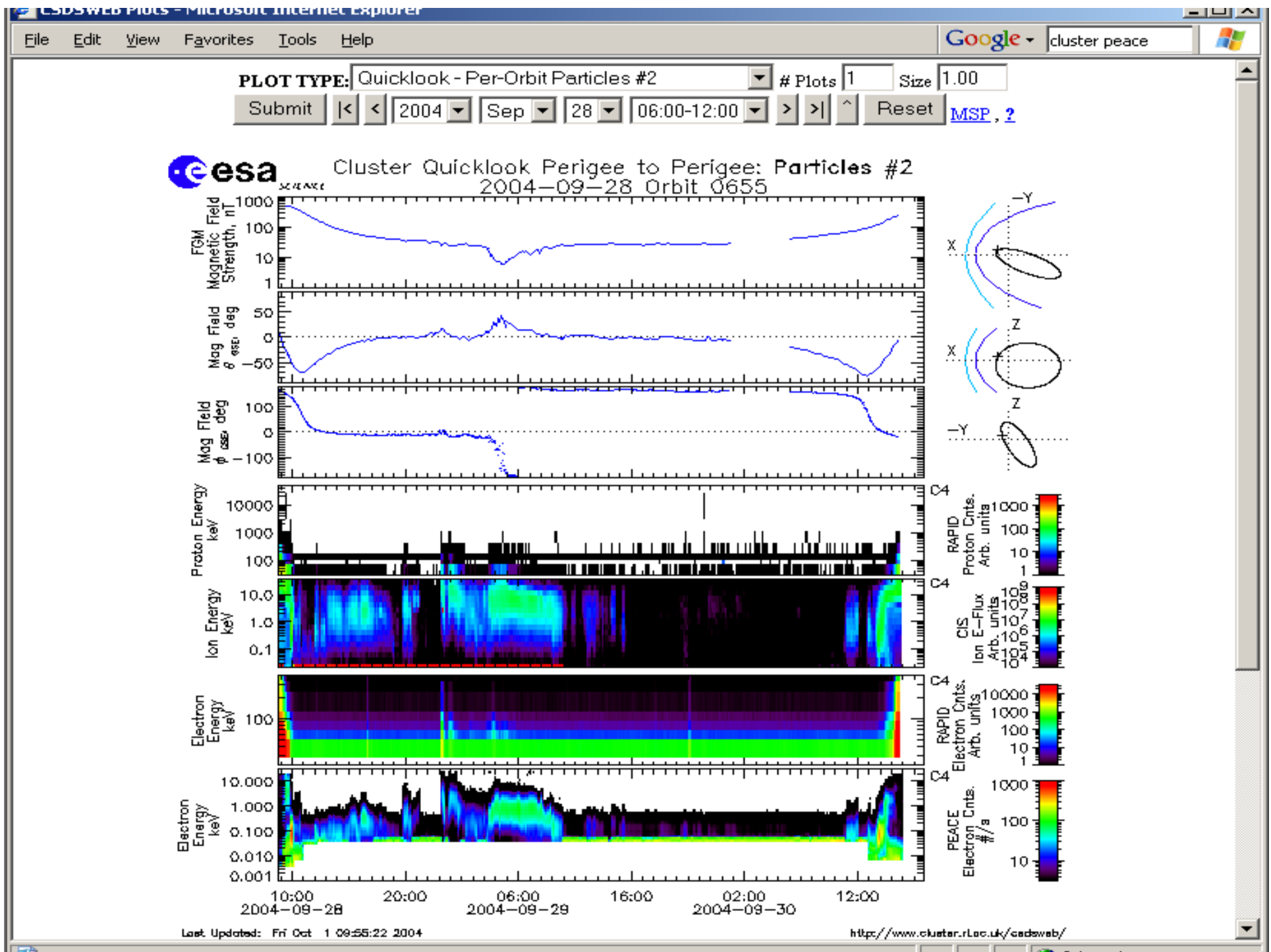
Plasma data

- Janet's list
- Other magnetospheric missions (Cluster, Interball, Polar, Geotail, STRV, CRRES plasma instruments, GOES 10-E, NOAA/TIROS, Metop, Double Star European instruments)

Cluster

- Perigee 4Re but will decay;
- 60 hour orbit -> few perigee passages
- Perigee will decay to $\sim 1\text{Re}$ in 2009; re-entry in 2010/2011





PLOT TYPE: Quicklook - 6 Hour Particles #2

Plots 1

Size 1.00

Submit

<

<

2004

Sep

28

06:00-12:00

>

>

^

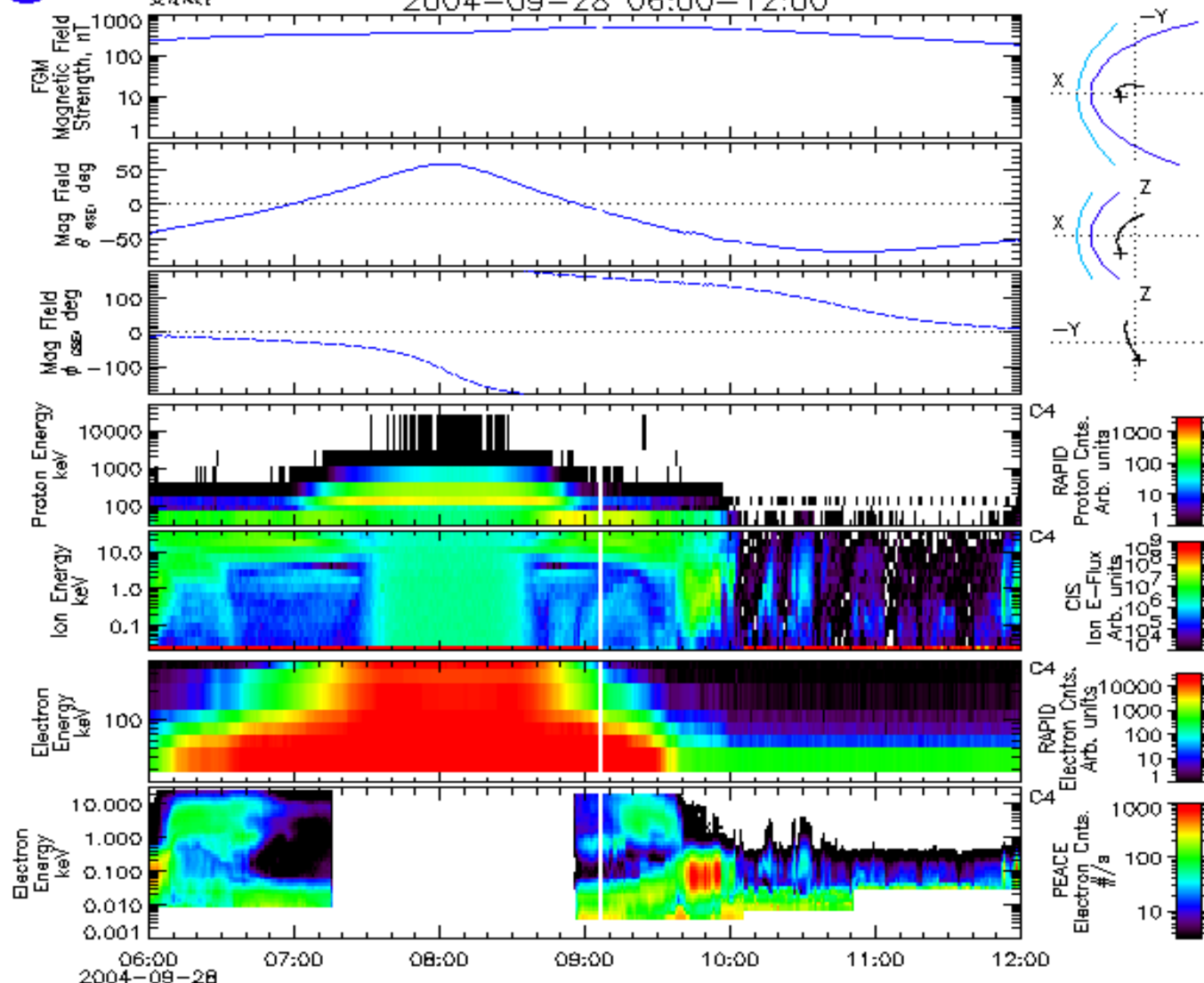
Reset

[MSP, 2](#)



Cluster Quicklook 6-hour: Particles #2

2004-09-28 06:00-12:00



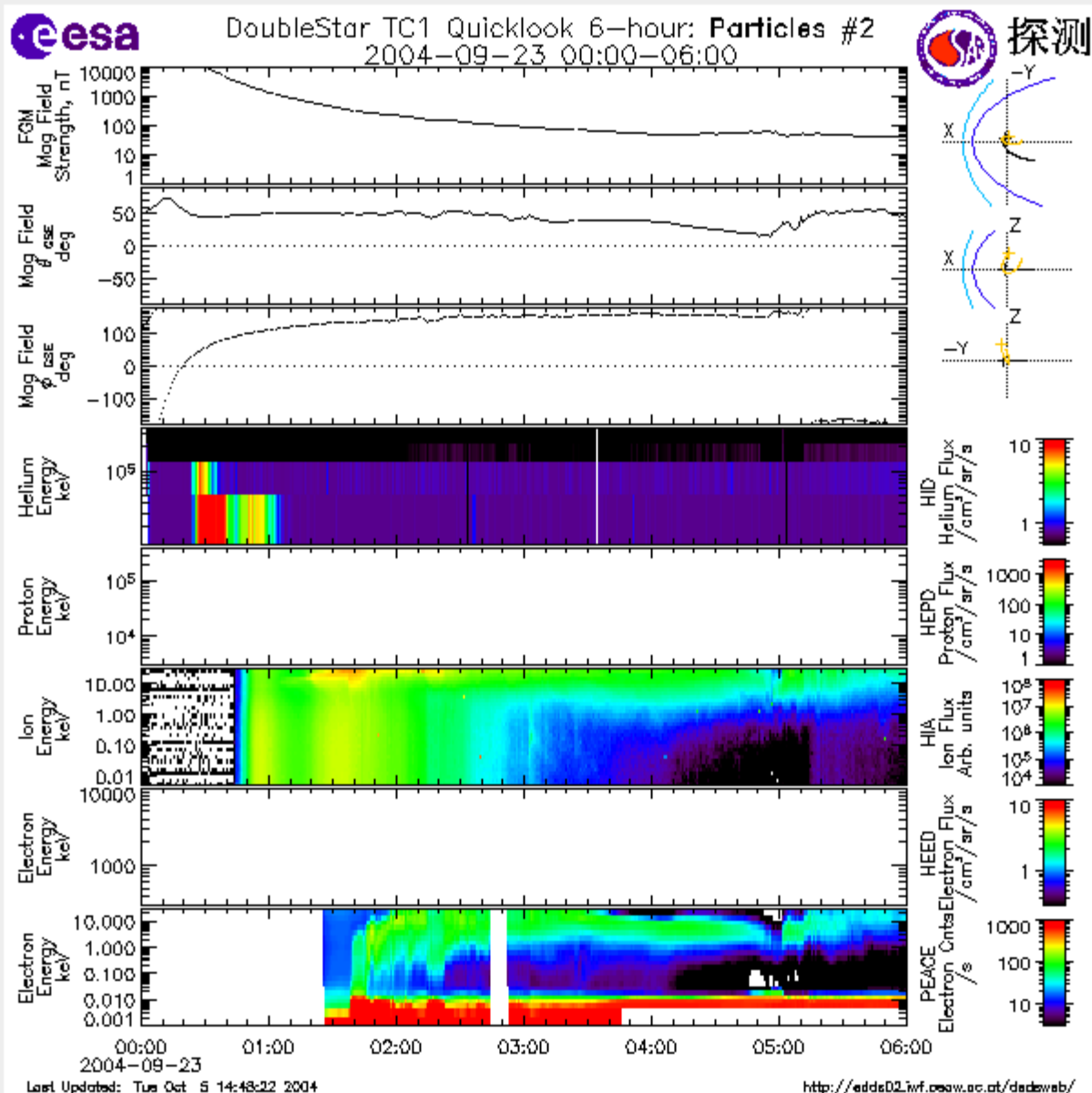
Last Updated: Wed Sep 29 13:36:23 2004

<http://www.cluster.lac.uk/cadswab/>

Double Star (China)

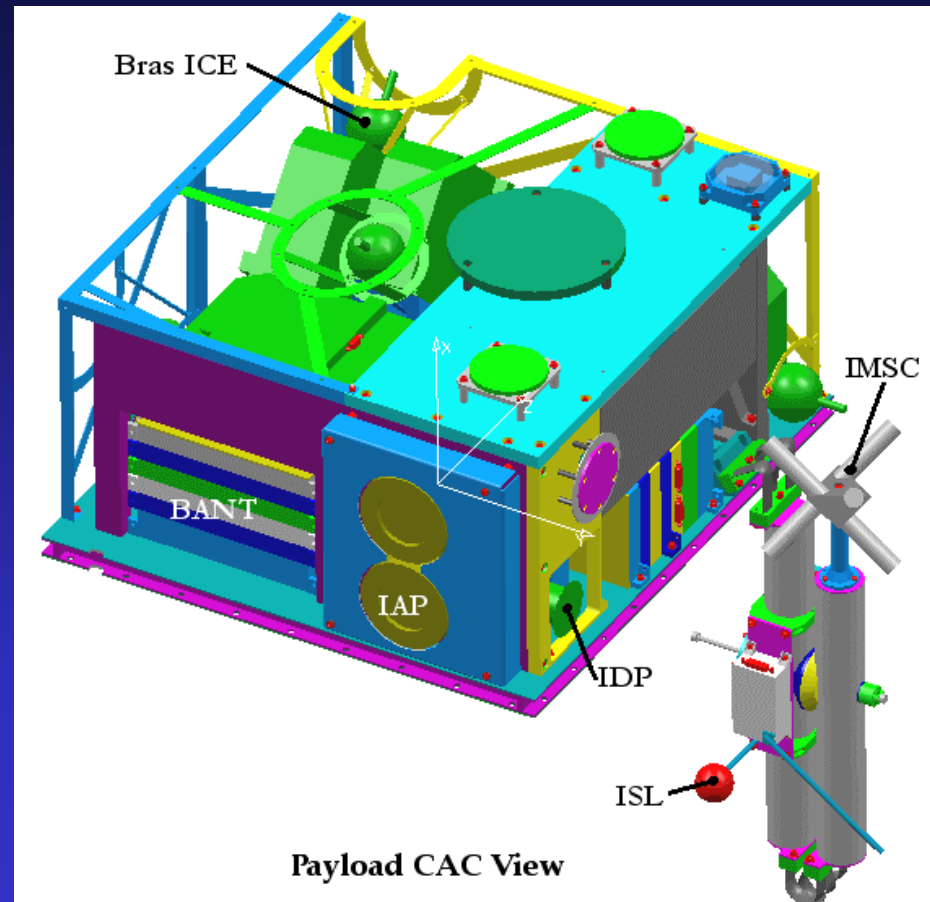
- equatorial spacecraft launched 29 December 2003
550 km x 66 970 km , 28.5°
- polar satellite launched 25 July 2004
700 km x 39 000 km
- 7 Cluster flight spares (incl. PEACE) + Chinese instruments (incl. **energetic particles**)
- <http://www.rssd.esa.int/index.php?project=DOUBLESTAR>

PLOT TYPE: TC1 Quicklook - 6 Hour Particles #2 # Plots 1 Size 1.00
 Submit |< < 2004 Sep 23 00:00-06:00 > >| ^ Reset ?



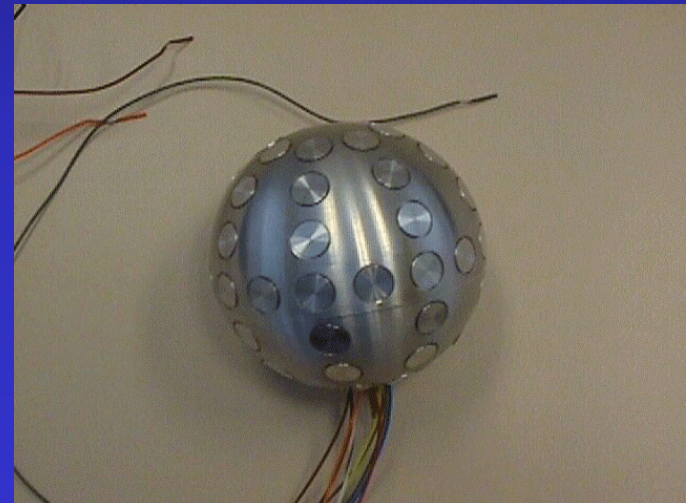
DEMETER (France)

- 29 June 2004 into 715km at 98.23°
- IMSC : 3 magnetic field components from a few Hz to 17.4 kHz.
- ICE : 3 electric field components for frequencies DC to 3.25 MHz.
- IAP : ion density, temperature, and velocity of H⁺, He⁺, O⁺
- ISL : local electron and ion density and temperature, ion component measurement, satellite potential measurement.
- IDP : electron spectrum measurement (> 30 keV).



Future

- French micro PARANIS (sprites and electron acceleration)
- ESA/Belgium Proba-2 (Polar, 2006)
 - (LYRA-SWAP – primary solar payloads)
 - **TPMU/DSL**P Langmuir probes (2)
Similar to Demeter (segmented LP)



Japan & Russia

- DOM and MDS-1 SDOM (standard dose monitor)
http://www.nasda.go.jp/lib/nasda-news/1999/03/envi_e.html
- SEM on GMS-4
- Inputs from Mikhail Panasyuk (MSU and ISO WG4 chair)
- see separate presentation.

European Efforts

- In several ESA-sponsored studies, old data sets were “dusted off”, oiled and analysed, e.g.:
- ISEE electrons
 - at the time we were concerned for the medium energy environment of XMM and Integral
- AZUR protons
 - The data set underpinning AP8MAX
 - As a result it was uncovered that: a different field model was used than thought in AP8 creation; limited period
- Meteosat-SEM

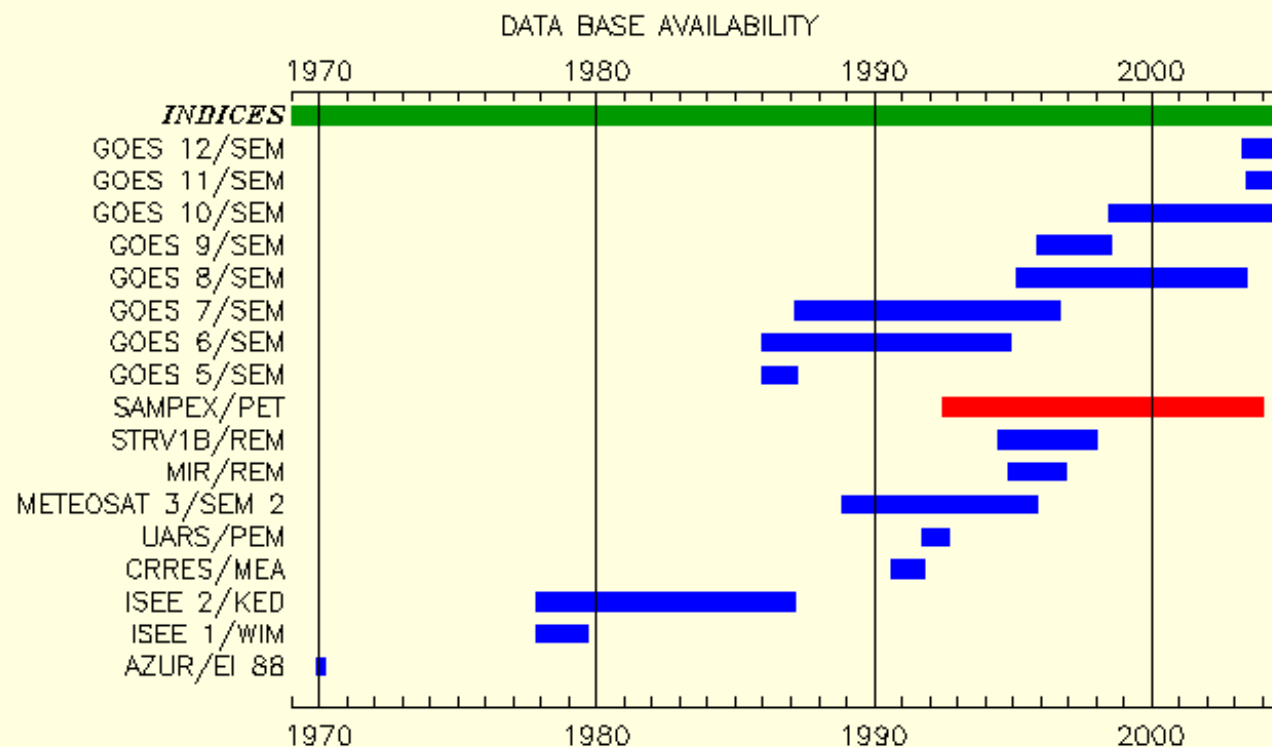
RODGERS, D.J., COATES, A.J., JOHNSTONE, A.D., & Daly, E.J., Correlation of Meteosat-3 anomalies with data from the space environment monitor, *in ESA Workshop, ESTeC, Netherlands, 11-13 November 1998, WPP-155*, 301-306, 1999.
- Lessons: do not forget old data sets
but : large effort to analyse someone else's data set



Data bases of in-flight data on the space environment

Time series data:

Missions indicated with a green or blue time bar are accessible on line. Those with a red time bar will be added in the future.

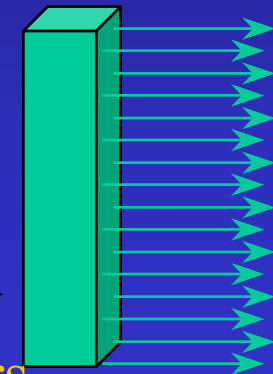
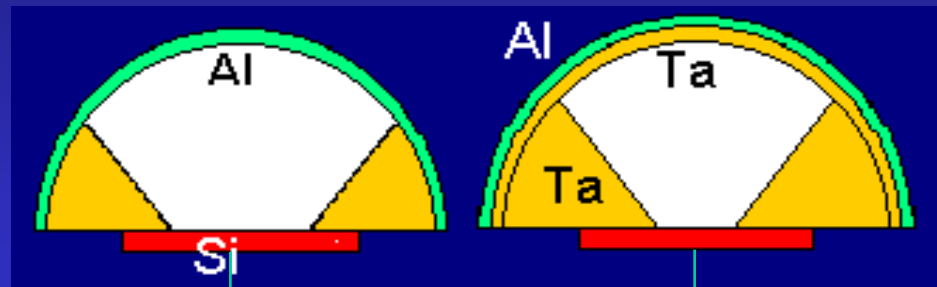
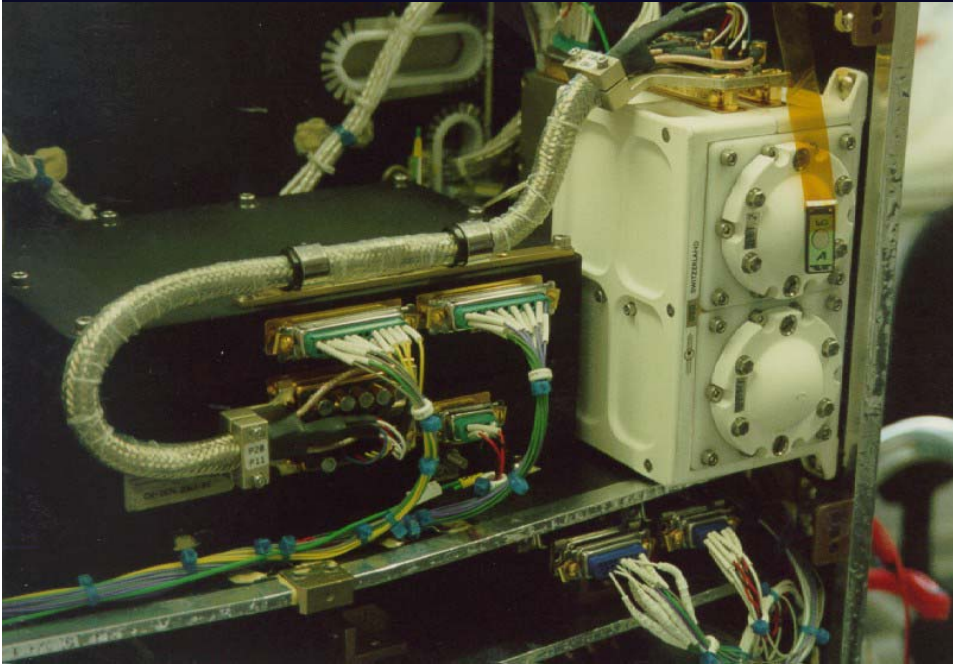


Spennis is a simple interface to many datasets; more flexible systems discussed later

Spacecraft	Instrument	Data product	Particles	Energy range	PI
IMP	tbd	Flux	p+	1. to 999. MeV	NSSDC
GOES	SEM	Flux	p+	1. to 999. MeV	NOAA
			e-	2. to 999. MeV	
			He++	3.8 to 500. MeV	
			X-ray	. to . MeV	
Meteosat-3	SEM 2	Flux	e-	0.043 to 0.3 MeV	A. Coates (MSSL)
ISEE 1	MEPI	Flux	p+	.024 to 2.081 MeV	D.J. Williams (APL/JHU)
			e-	.022 to 1.2 MeV	
ISEE 2	KED	Flux	e-	0.018 to 1. MeV	E. Keppler (MPAe)
		Flux	e-	.018 to 1. MeV	
STRV-1b	REM	Count rate	p+	35. to 300. MeV	P. Buehler (PSD)
		Count rate	e-	2. to 10. MeV	
MIR	REM	Count rate	p+	35. to 300. MeV	P. Buehler (PSD)
		Count rate	e-	2. to 10. MeV	
CRRES	MEA	Flux	e-	.1 to 2. MeV	A. Vampola
AZUR	EI-88	Flux	p+	1.5 to 104. MeV	D. Hovestadt
		Flux	He2+	6. to 19. MeV	
SAMPEX	PET	Flux	p+ /He2+	18. to 85. MeV	R. Mewaldt (Caltech)
UARS	HEPS	Flux	p+	.1 to 160. MeV	D. Winingham (SWRI)
AMPTE-UKS	ELX	Flux	e-	.01 to 16. keV	M. Hapgood (RAL)

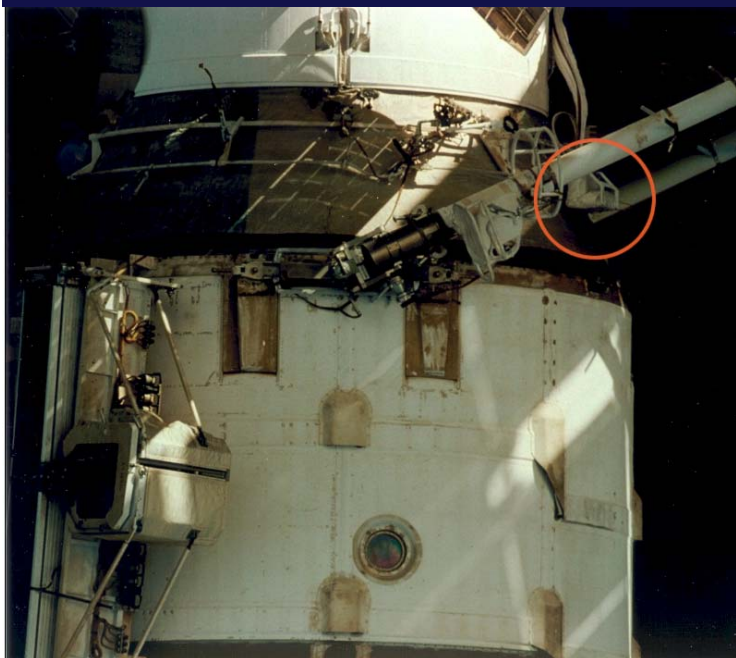
Some interesting sets are “monitors”, e.g.:

REM



Simple pulse-height analysed shielded Si detectors

REM on MIR (11/94-11/96)



Thanks to Mike Golightly

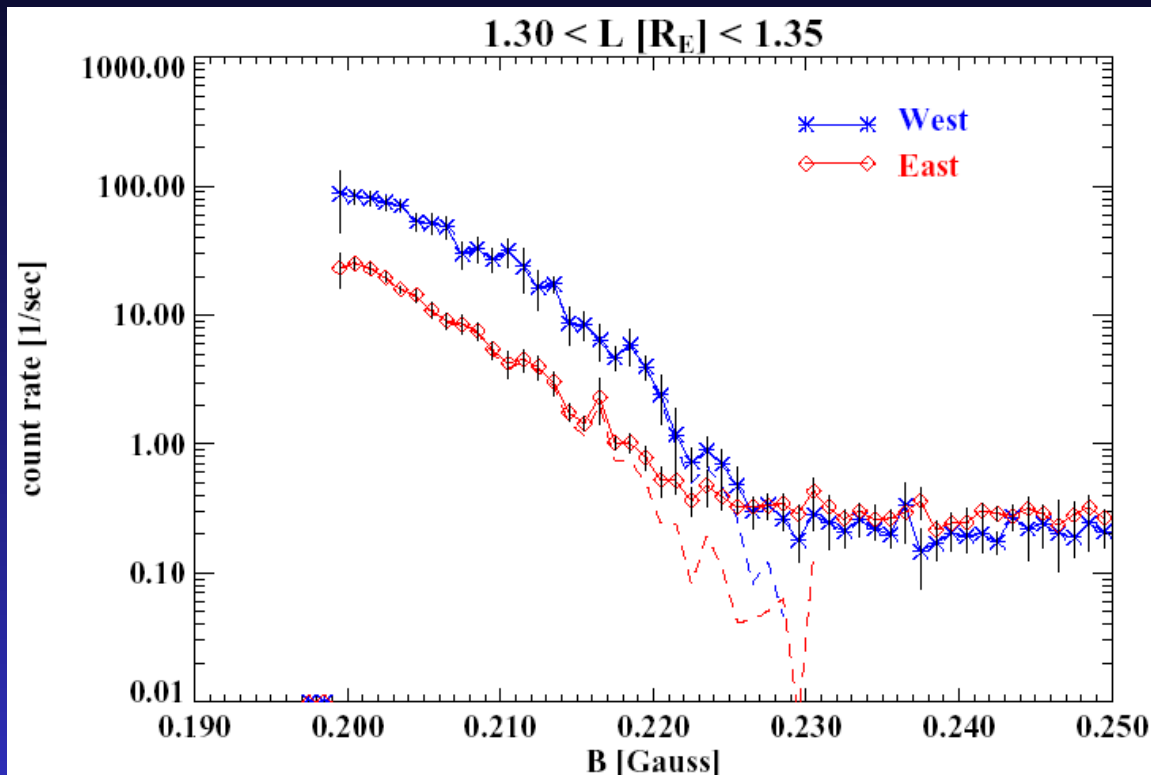
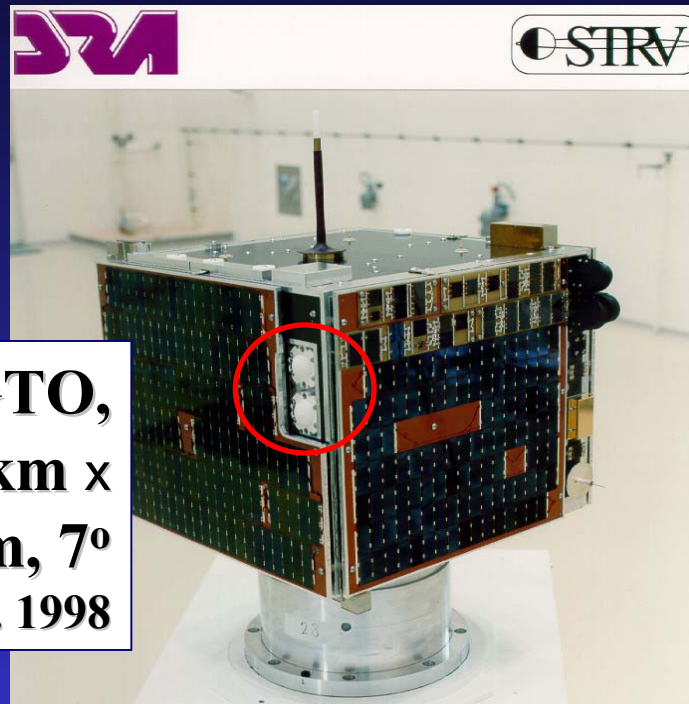


Fig. 6. REM counting rates for east- (red line) west- (blue line) looking detector at $1.3 \leq L < 1.35$ as function of B . The values at high magnetic latitude, where the detections are dominated by cosmics, is used to determine the background counts. The dashed lines show the background corrected counting rates. The detector channel plotted here is sensitive to protons with energies above 200 MeV.

Clear verification of the expected magnitude of the E-W effect

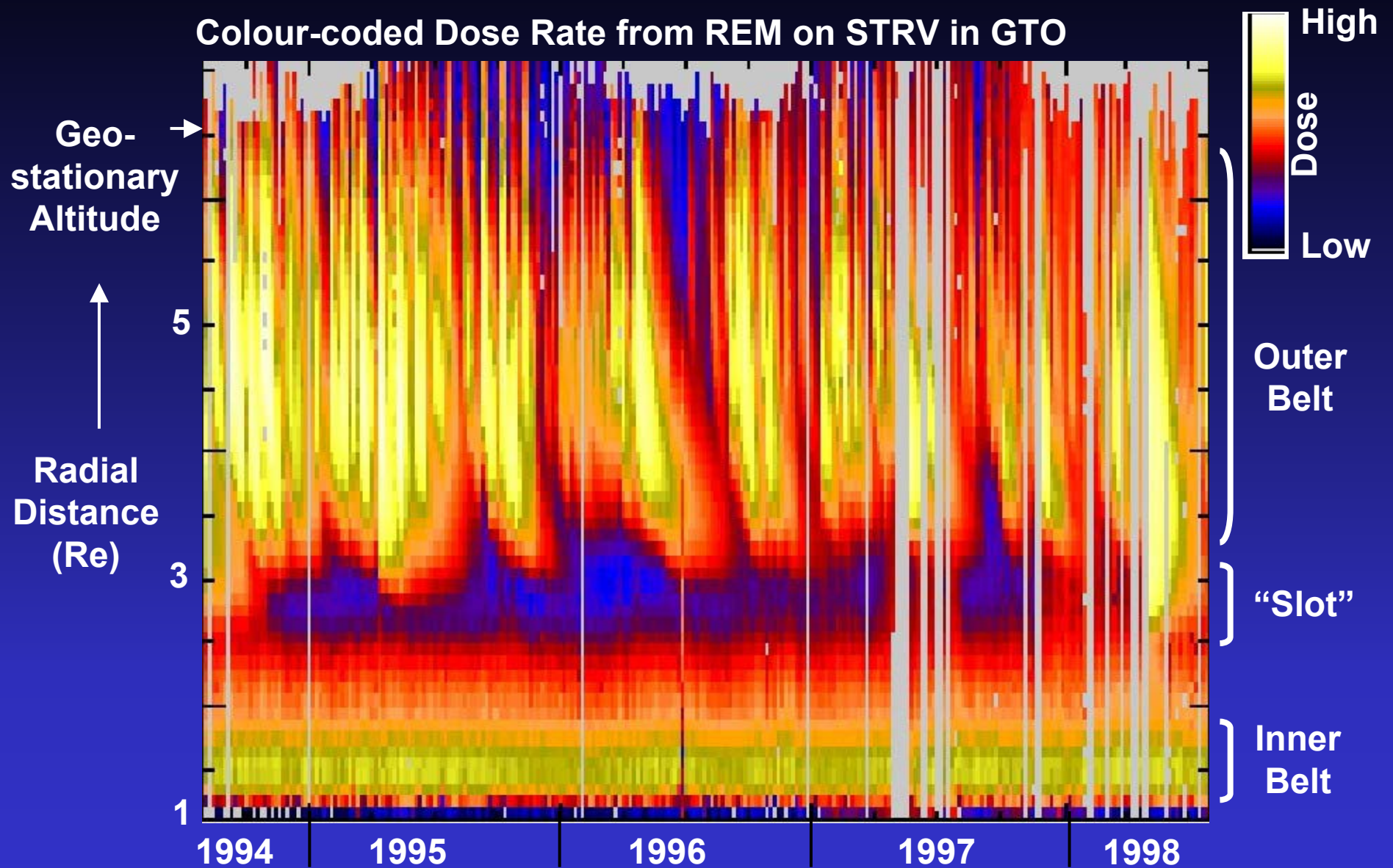
REM on STRV-1b



**STRV-1b: GTO,
200km x
36000km, 7°
Aug. 1994 - Aug. 1998**

A great RB orbit; planned for 1 year; lasted >4

Colour-coded Dose Rate from REM on STRV in GTO



REM-based products

Not only “dose”; fluxes can be derived (careful Monte-Carlo simulation and accelerator calibration at PSI)

Model comparisons

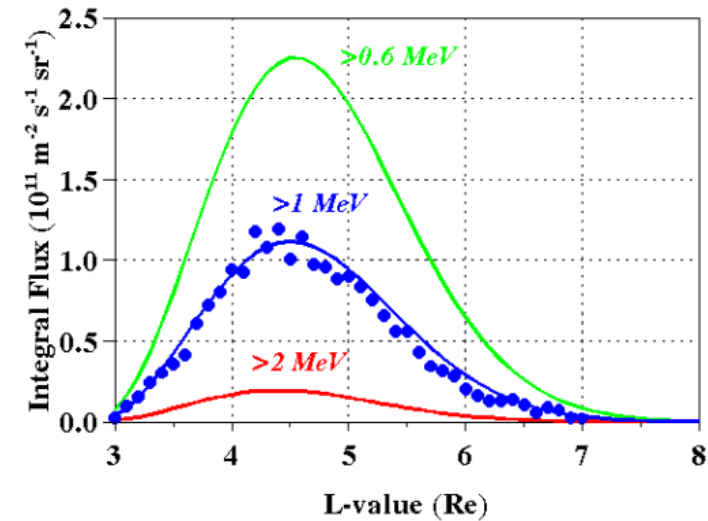
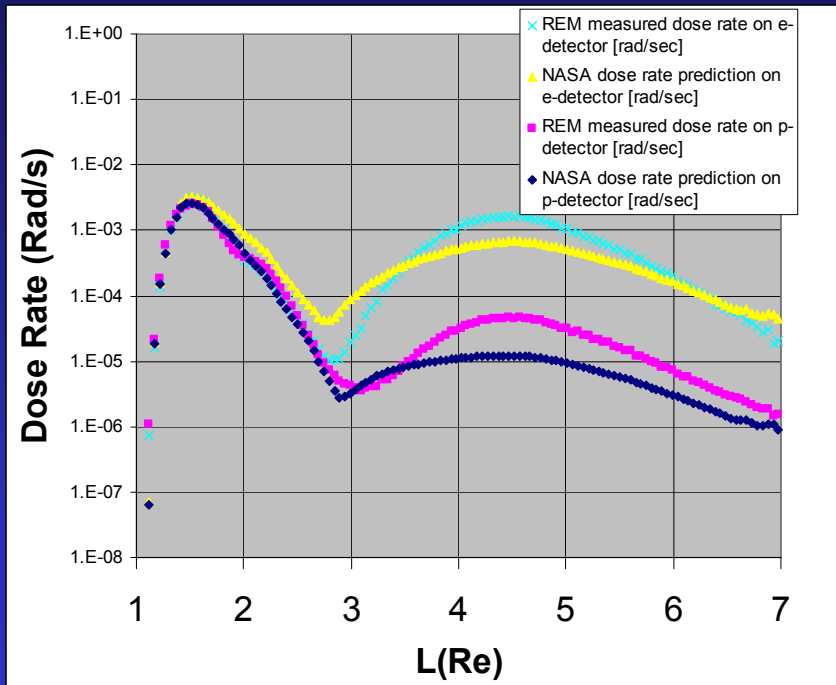





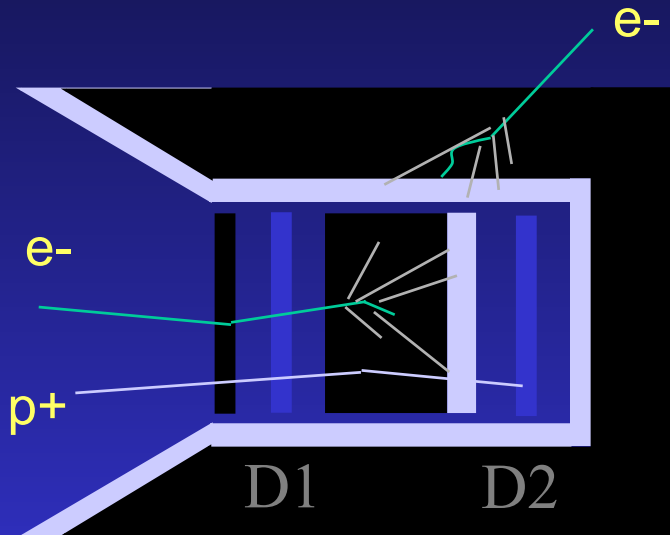
Fig. 7 Maximum flux ($\text{m}^{-2} \text{ s}^{-1} \text{ sr}^{-1}$) as a function of L -value: >1 MeV data points from STRV/REM, >2 MeV, >1 MeV and >0.6 MeV curves are FLUMIC model (FYR= 0.31, FSC= 0.88).

FLUMIC/DICTAT
for internal charging
analysis (in Spenvis)

Standard Radiation Environment Monitor (SREM)

Contraves Space (CH)

-  Aluminum
-  Tantalum
-  Silicon (detectors)



Improved:

- Performance
- Cost
- Mass 2.5 kg
- Volume 2 l
- Power 2.5 W



Optimised Al-Ta "Sandwich structure".
Simulation outcome: modularity (D3).

- Electrons > 0.5 MeV
- Protons > 10 MeV
- Heavy ions
qualitatively

SREM

energy binning

**D1 protons/
electrons**

**D1 heavy
ions**

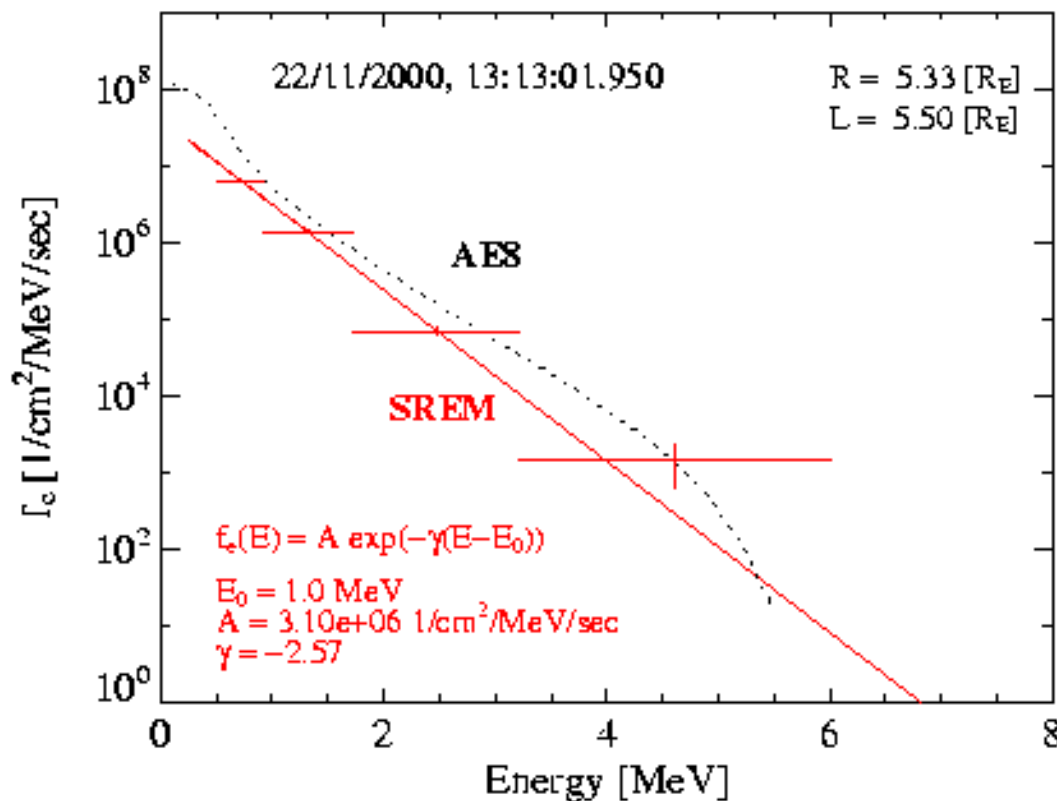
**D1-D2 proton
coincidence**

**D3
electrons/
protons**

D3 protons

	Logic	dE discr. level [MeV]	Particle	E min [MeV]	E max [MeV]
1.	D1	0.085	Proton Electron	20 1.0	Inf.
2.	D1	0.25	Proton	20	550
3.	D1	0.6	Proton	20	120
4.	D1	2	Proton	20	27
5.	D1	30	Proton	20	34
6.	D2	0.085	Proton	39	Inf.
7.	D2	9	Ions	Depending on Z	Depending on Z
8.	D1*D2	0.6, 2	Proton coincidence	40	50
9.	D1*D2	0.6, 1.1-2.0	Proton coincidence	50	70
10.	D1*D2	0.6, 0.6-1.1	Proton coincidence	70	120
11.	D1*D2	0.085-0.6, 0.085- 0.6	Proton coincidence	130	Inf.
12.	D3	0.085	Electron Proton	0.5 10	Inf.
13.	D3	0.25	Electron	0.55	2.3
14.	D3	0.75	Proton	11	90
15.	D3	2	Proton	11	30

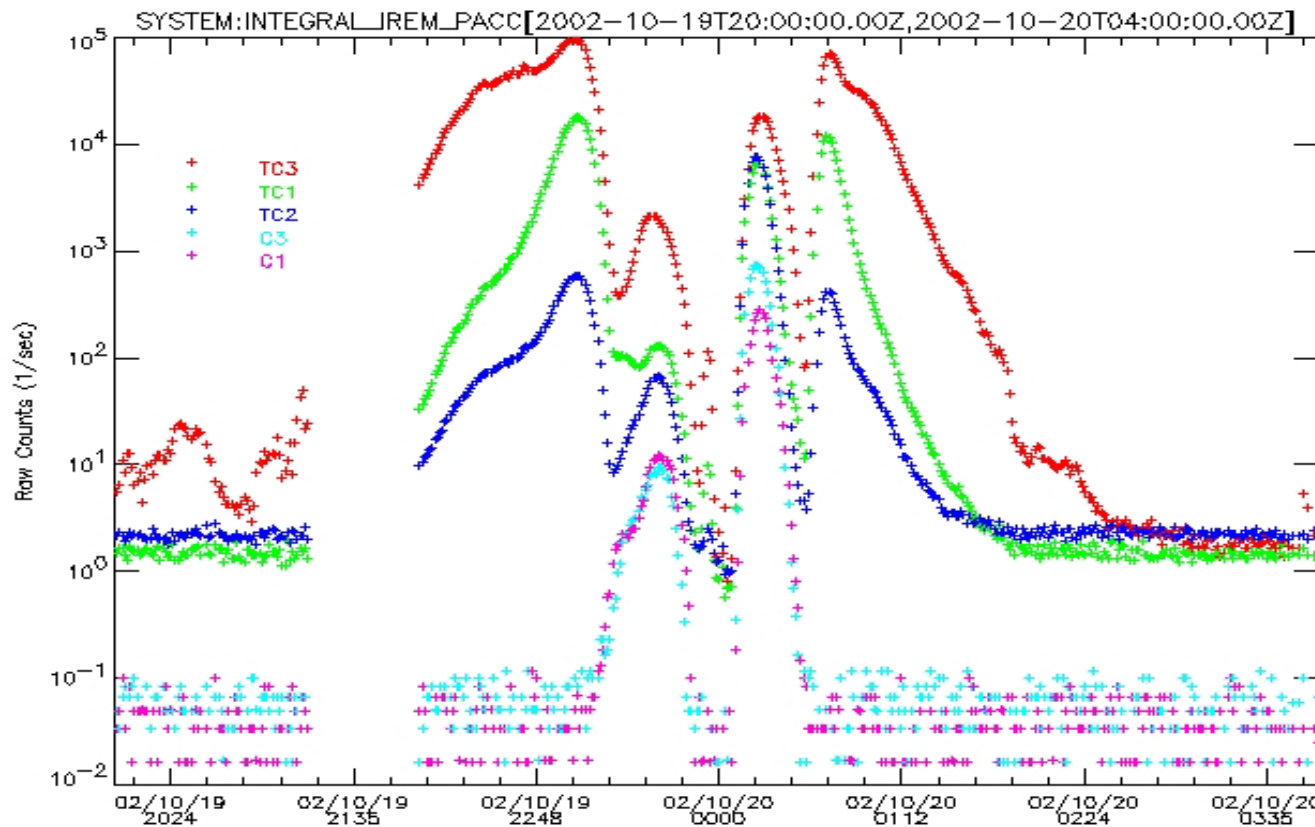
SREM on STRV-1c



Unfortunately satellite comms failed soon after launch but data were already seen to be very good; note we are able to report error bars!

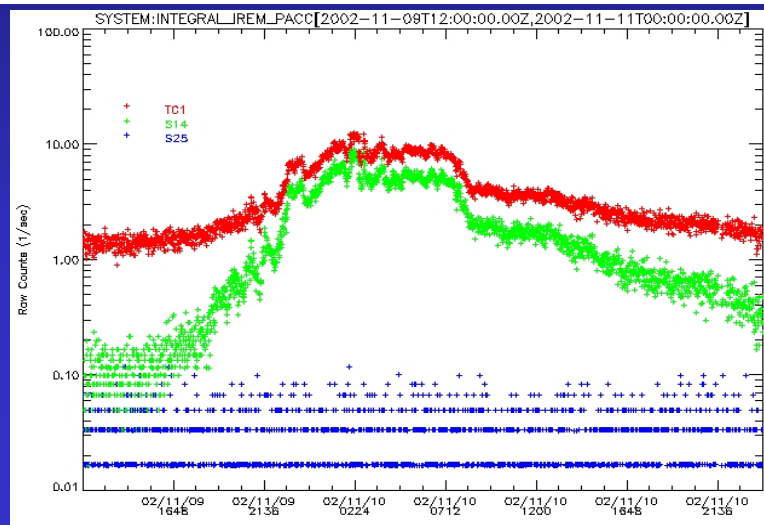
Others

- More SREMs (Integral 10000x153000, 51°, Proba-1);
- XMM (7400x114000 km - 37.7 °) Radiation Monitor ERM (CESR/Onera)
 - edet: [e 164keV-1.7MeV; prot 1.053 - 5.5MeV];
 - hes: [e 0.59 - 2MeV; prot 8.735 - 44MeV];
 - hec [e 1.38 - 3.54; prot 30-100]
- and follow-on on SAC-C: SPICA (Onera/CNES)
 - edet: [e 260keV-2MeV; prot 690-40MeV];
 - pdet: [e 0.9-4MeV; prot 10.5-46MeV]
- QinetiQ CREDO and related instruments
- Oersted CPD
 - 0.01-10MeV e, 0.2-300MeV p, >.3MeV α
- data policy varies

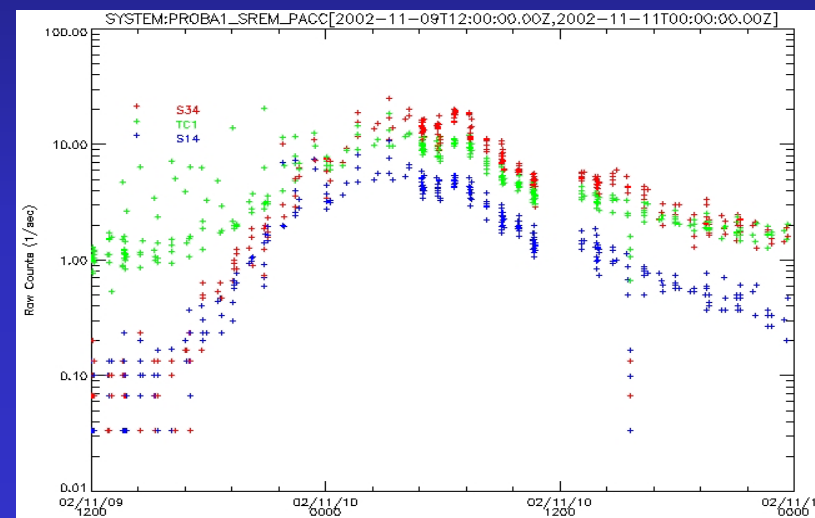


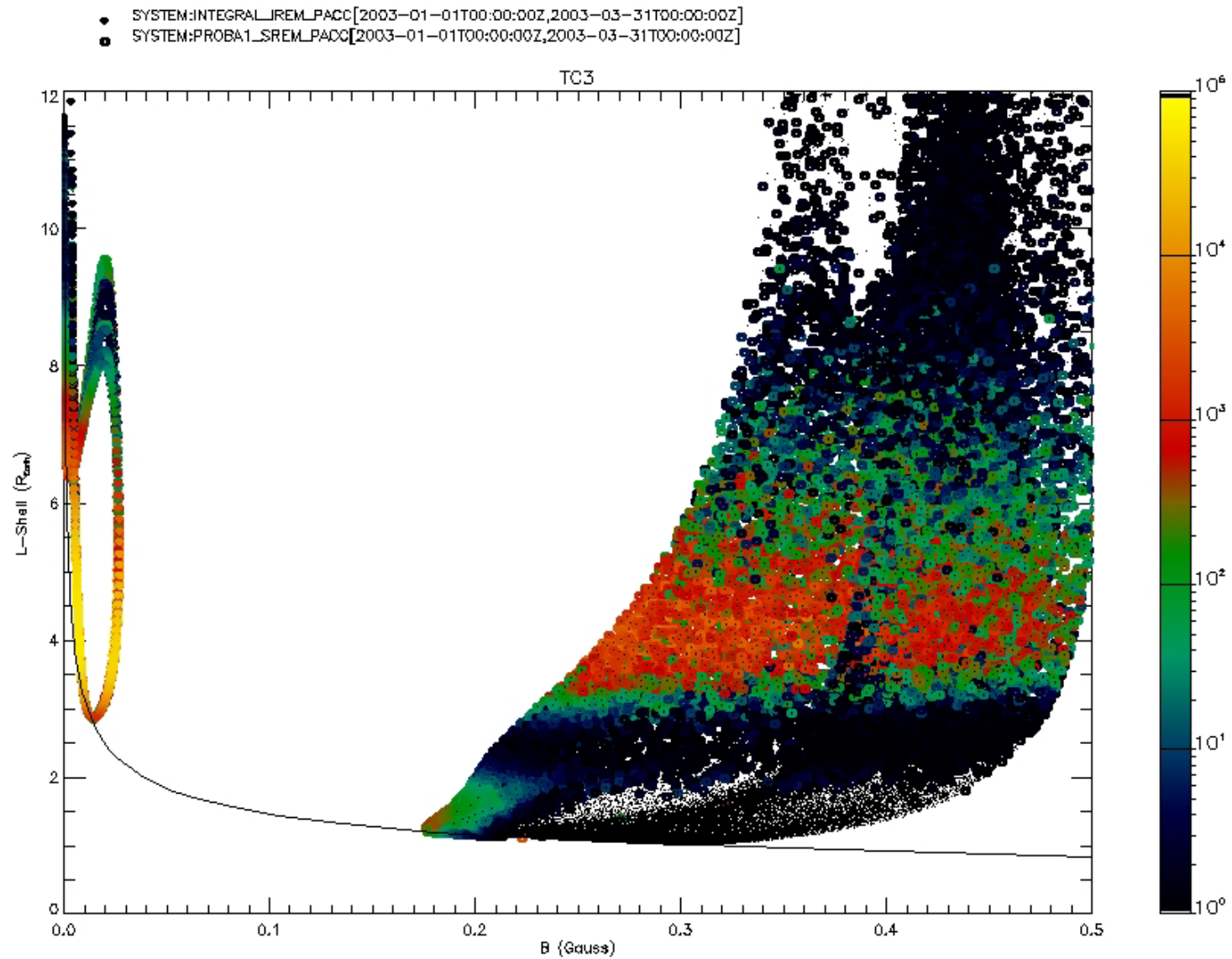
Integral SREM
during perigee
pass

Proba



Integral





XMM-Newton Live Radiation Monitor Feed - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Real.com

Address http://xmm.vilspa.esa.es/external/xmm_obs_info/radmon/index.php Go Google sedat

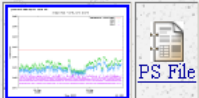
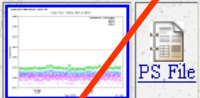
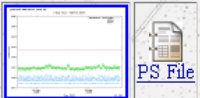
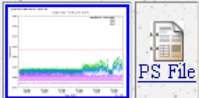
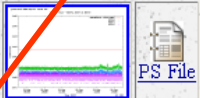
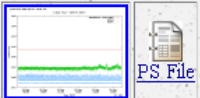
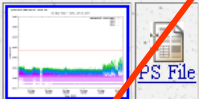
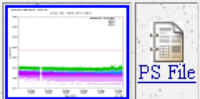
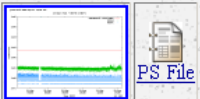
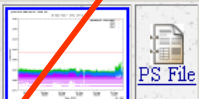
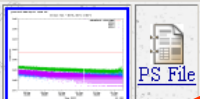
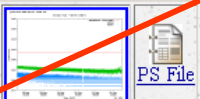
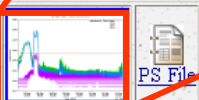
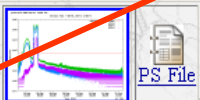
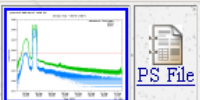
XMM-NEWTON
esa

XMM-Newton Live Radiation Monitor Feed

XMM-Newton Revolution
0876

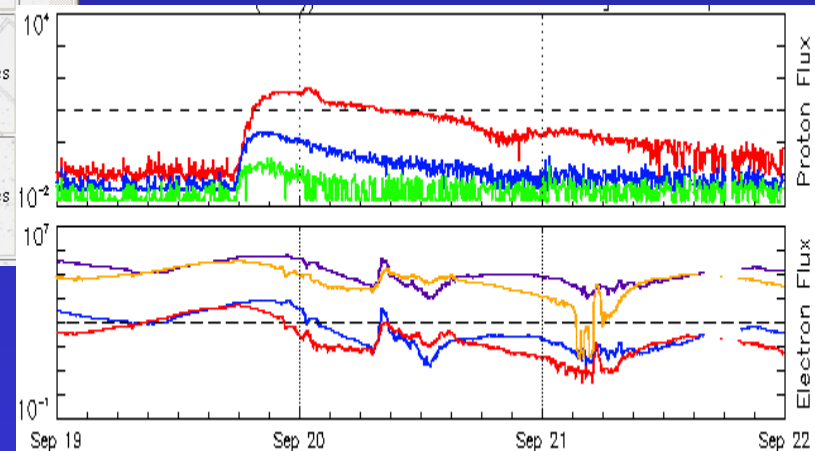
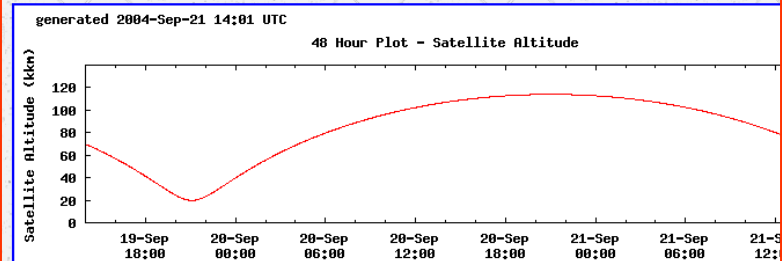
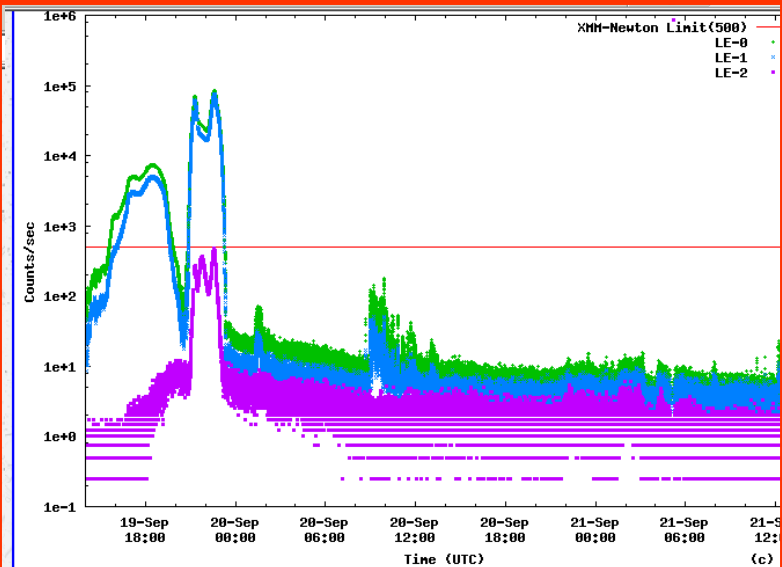
Radiation Monitor (almost) Live Data
The following plots are available as **images** or as **postscript files**. Click <reload> to update this page.
Satellite Altitude plots are included with the plots below.

This page generated: 21-Sep-2004, 14:38

Plot Duration	Low Energy			High Energy			Generation Frequency
	LE-0, LE-1 & LE-2	HES-0, HES-1 & HES-2	HES-0 & HES-C				
2 Hour	 PS File	 PS File	 PS File	2 minutes			
6 Hour	 PS File	 PS File	 PS File	15 minutes			
12 Hour	 PS File	 PS File	 PS File	30 minutes			
24 Hour	 PS File	 PS File	 PS File	60 minutes			
48 Hour	 PS File	 PS File	 PS File	60 minutes			

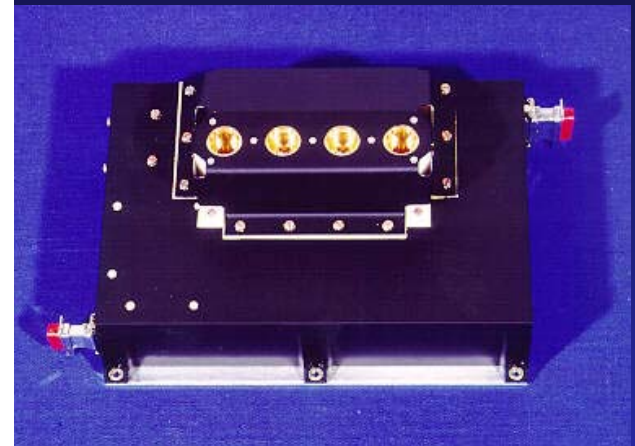
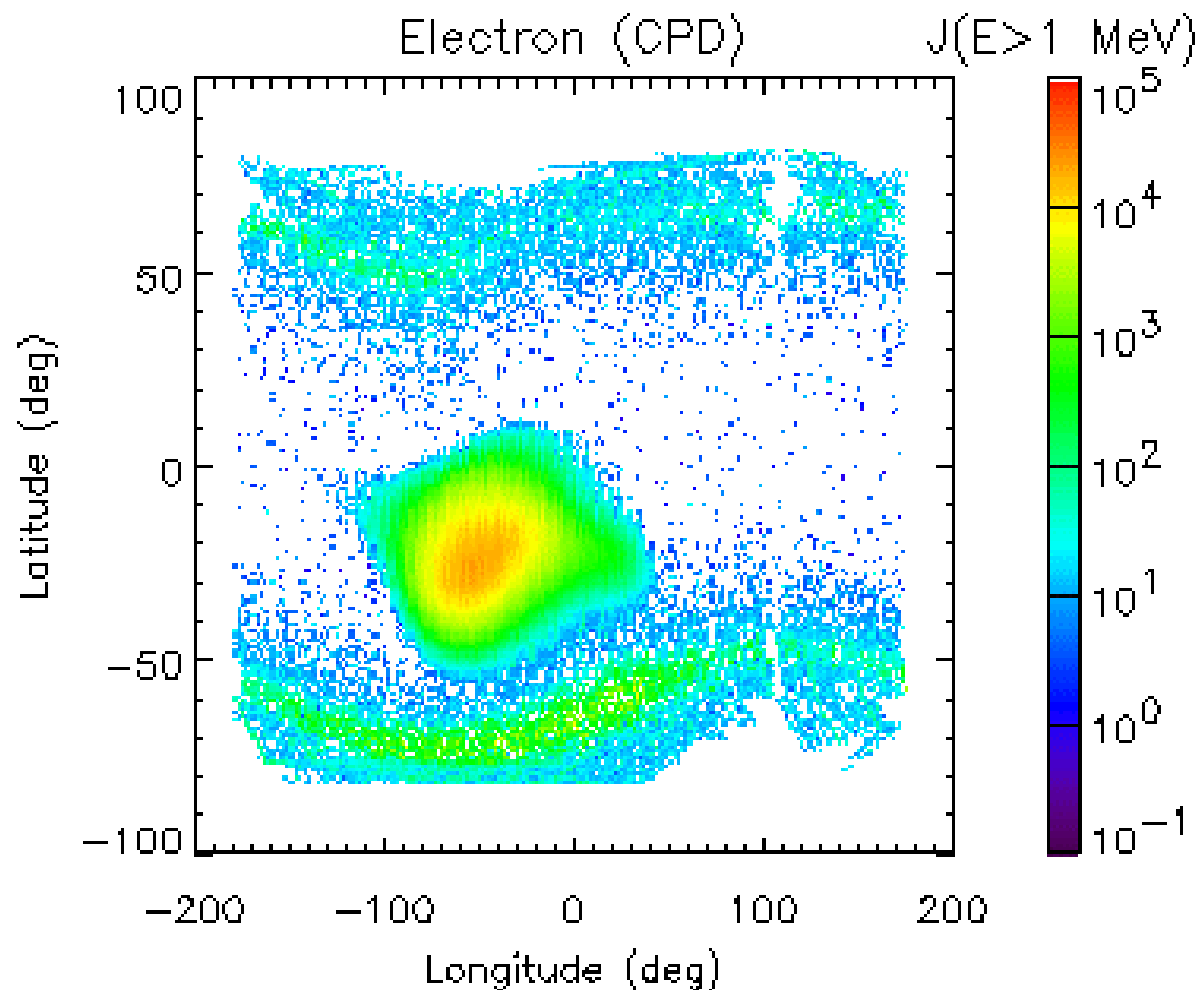
Print this Page
Search this Site
Contact Us

XMM



Near real-time data are available online

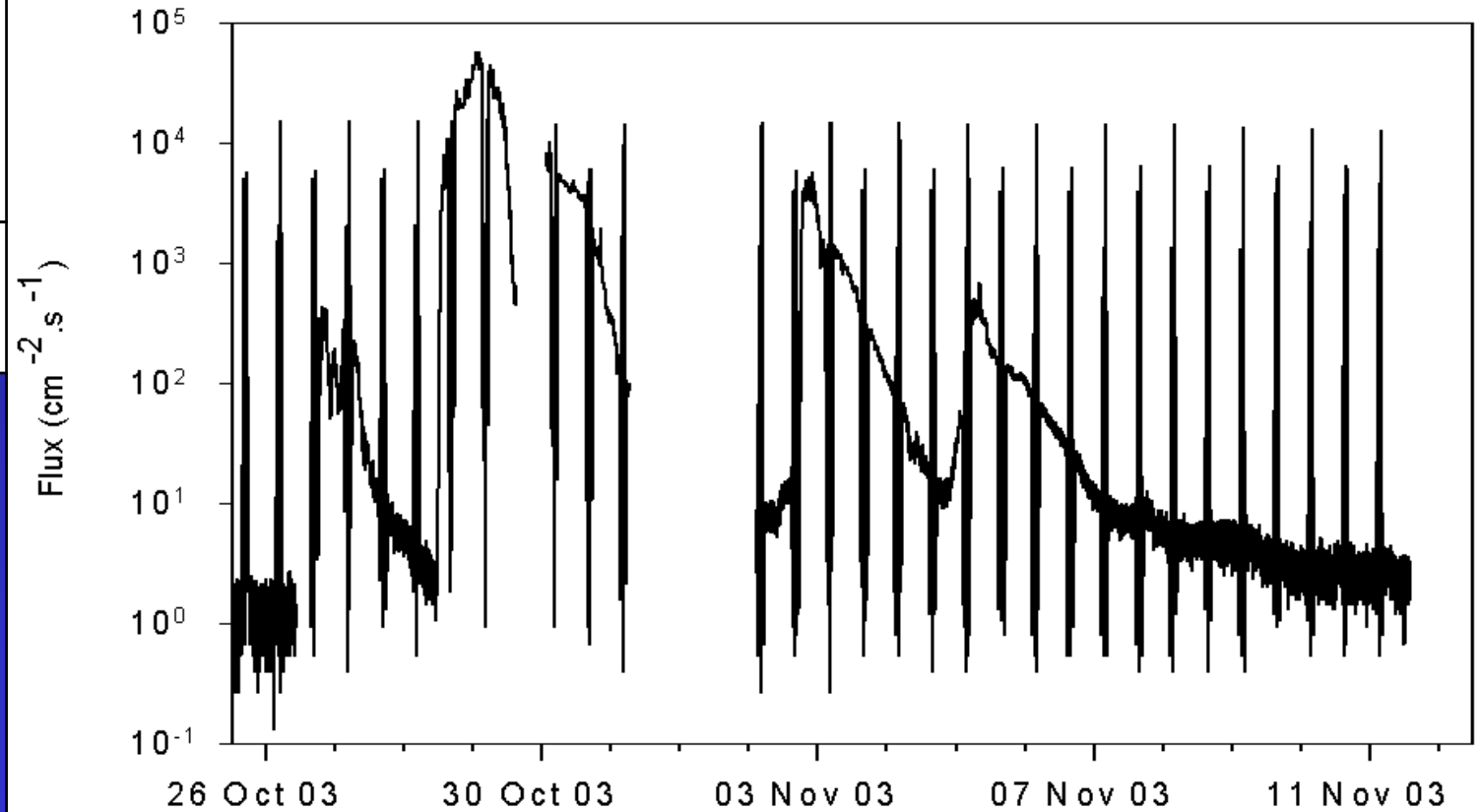
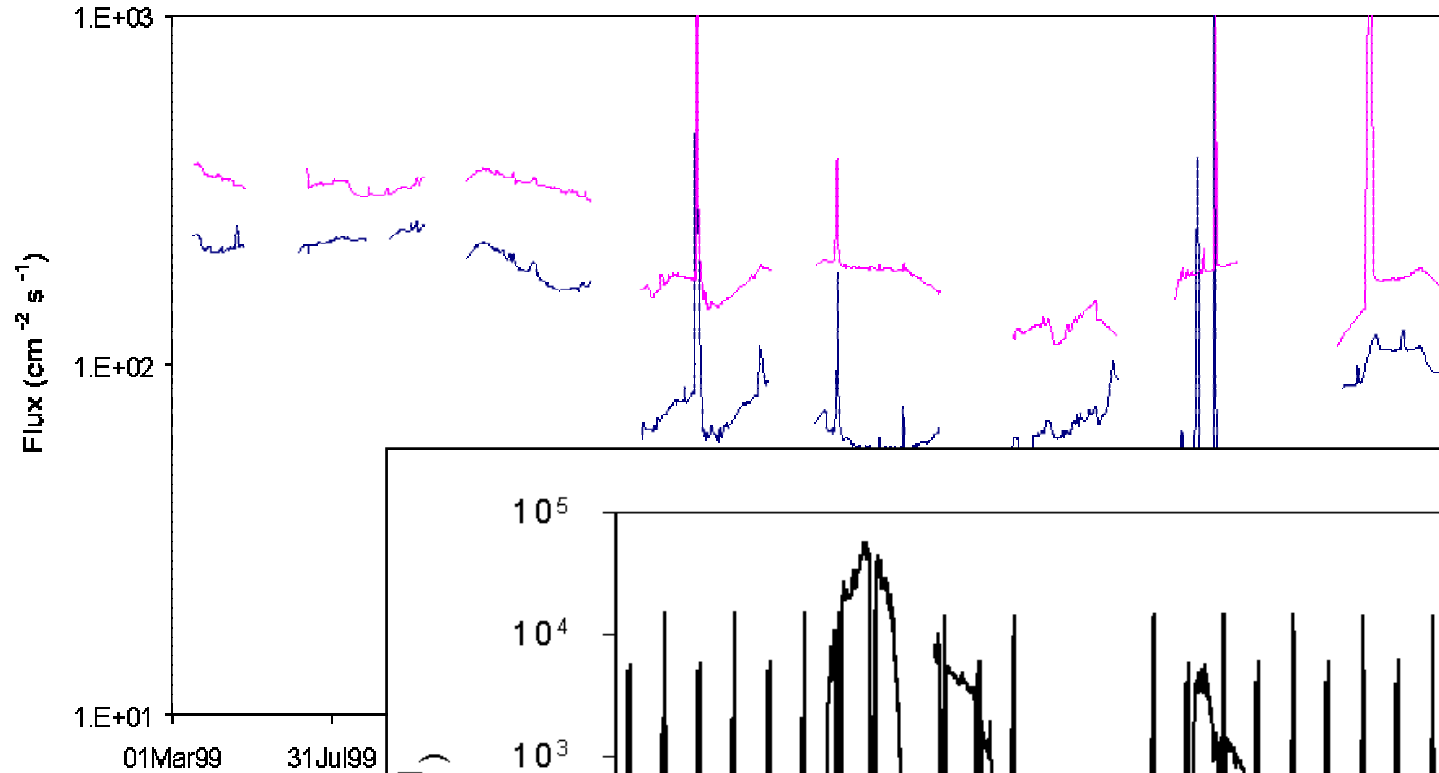
OERSTED Charged Particle Telescope (CPD) (PI: P. Stauning, DMI, Denmark)



Data are proprietary
at the moment

QinetiQ's
CREDO
proton
data
(MPTB)

1 Day Average Proton Fluxes
March 1999 - 7 July 2002

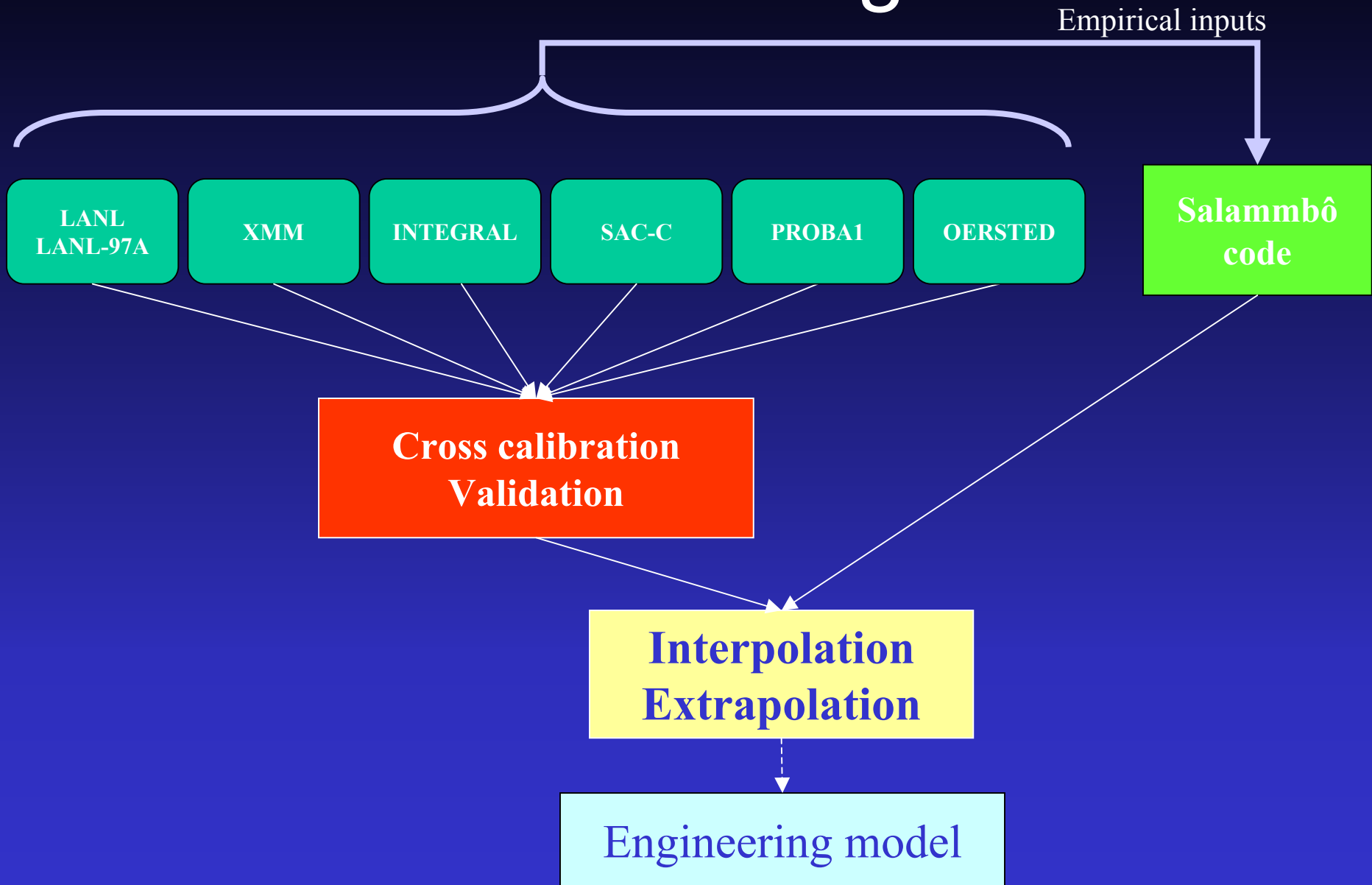


ESA RERMM project

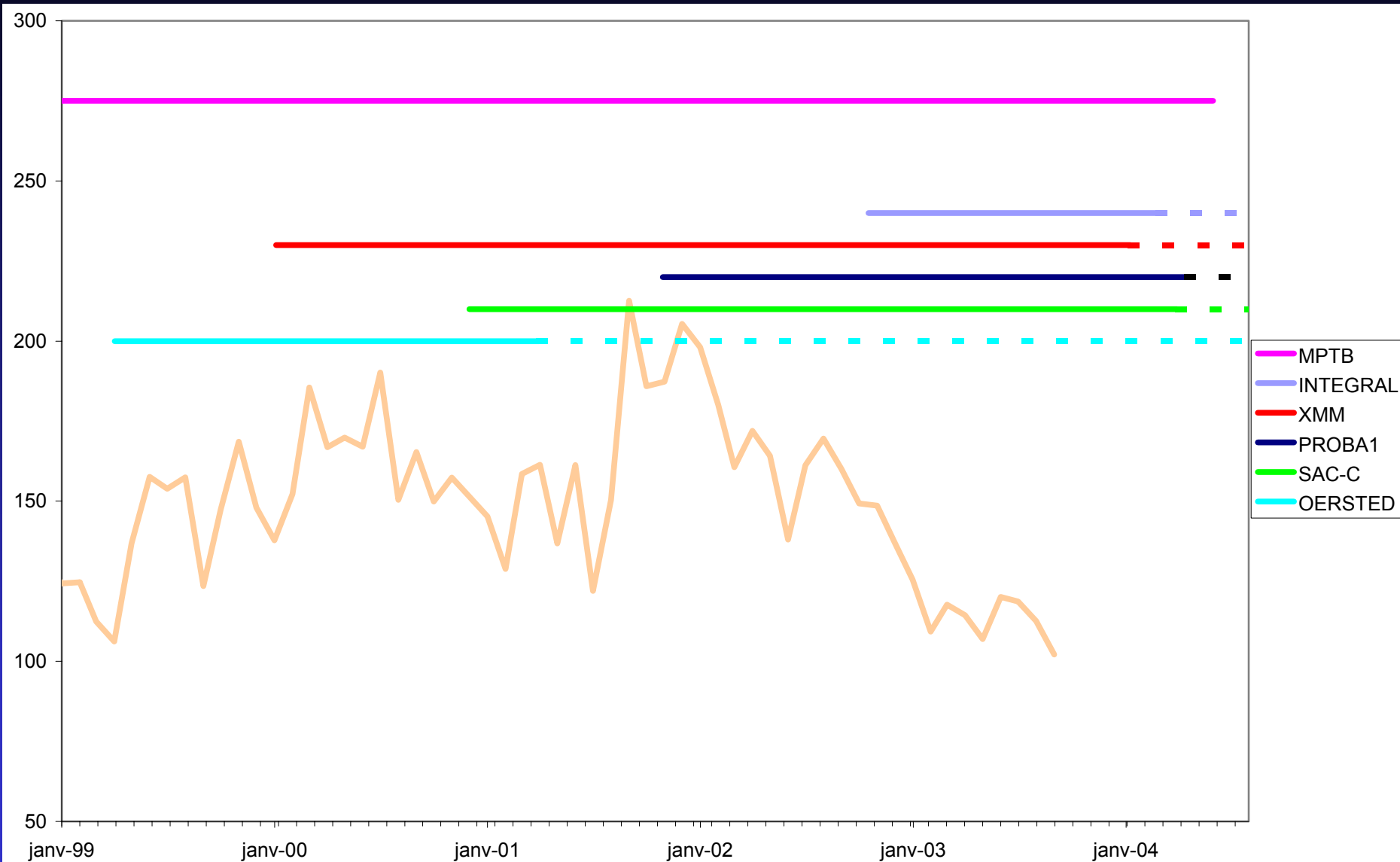
- to pull it all together

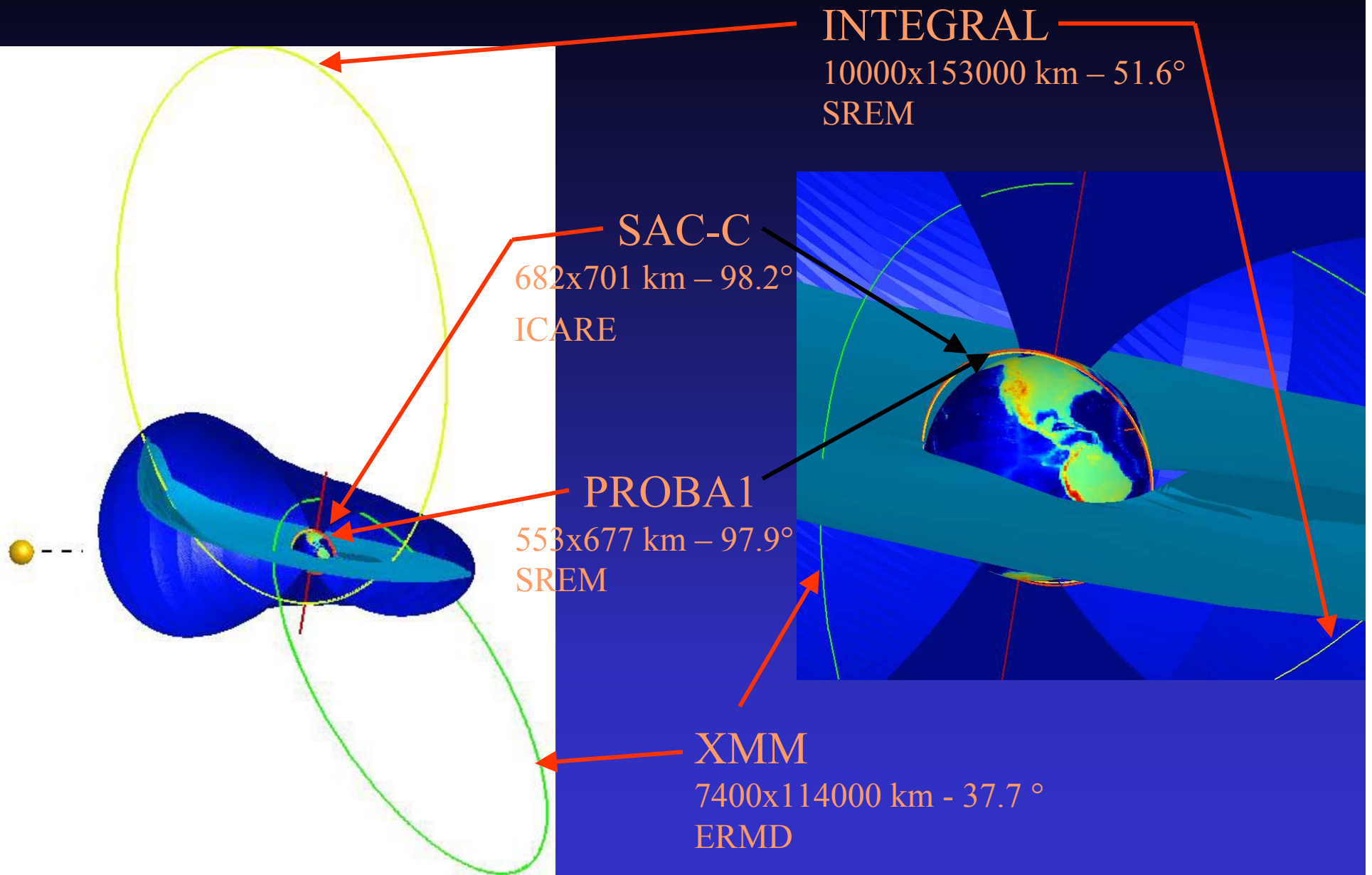
- Radiation Environment Research with Multiple Monitors
- Onera as prime (Sebastien Bourdarie, Project Mgr); incl. BIRA (DH), QinetiQ (CD), DMI (PS), Paul Bühler
- This project seeks to establish a database of available European/US data from monitors on XMM, Integral, Proba, Oersted, ...
- Dataset merging and model “unification”
- <http://www.onecert.fr/rermm/php/visualize.html>

RERMM Logic



Data Sources

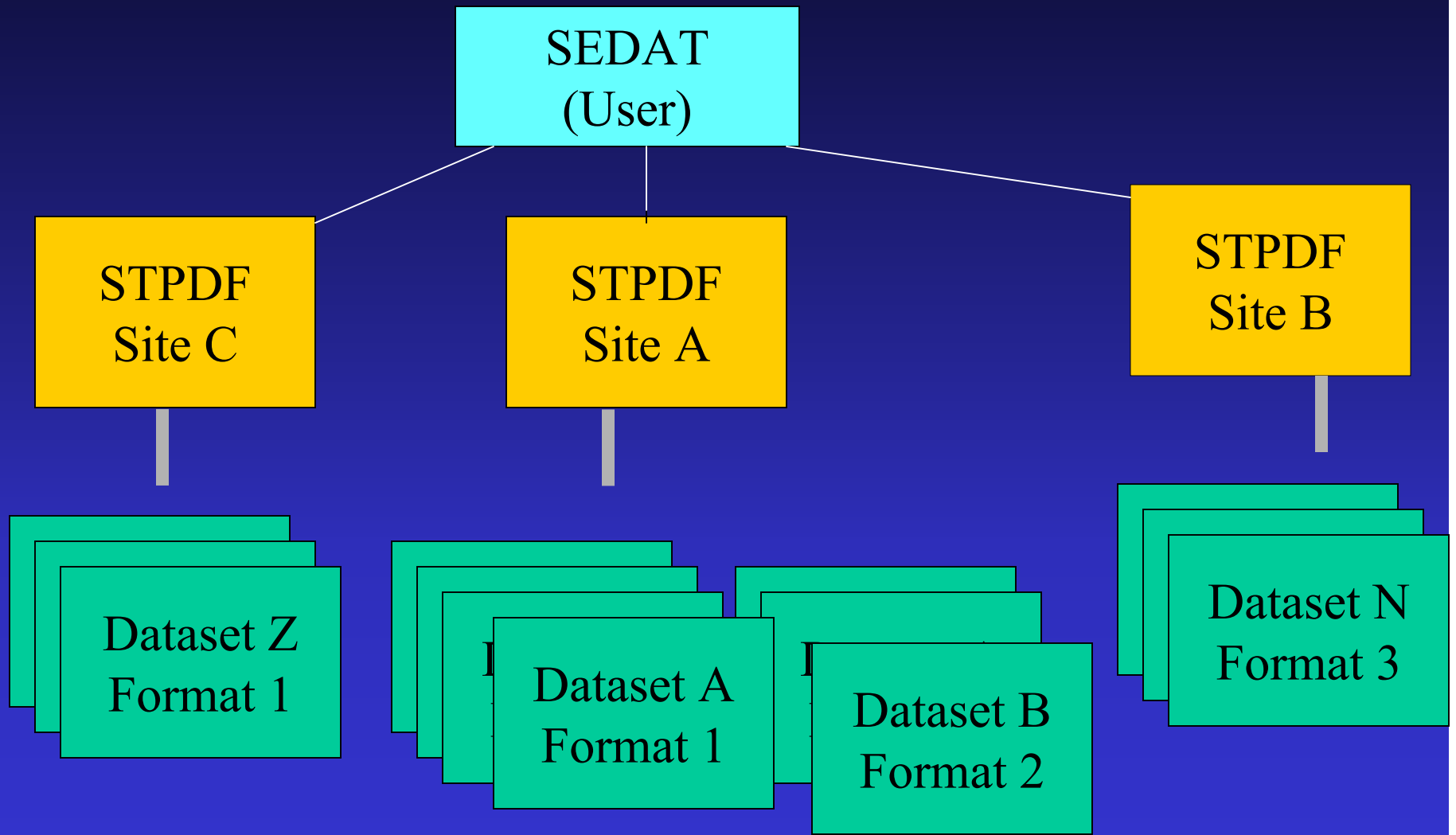




SEDAT

Space Environment Data System

(RAL (UK), Hapgood and Stamper, ESA R&D Project)

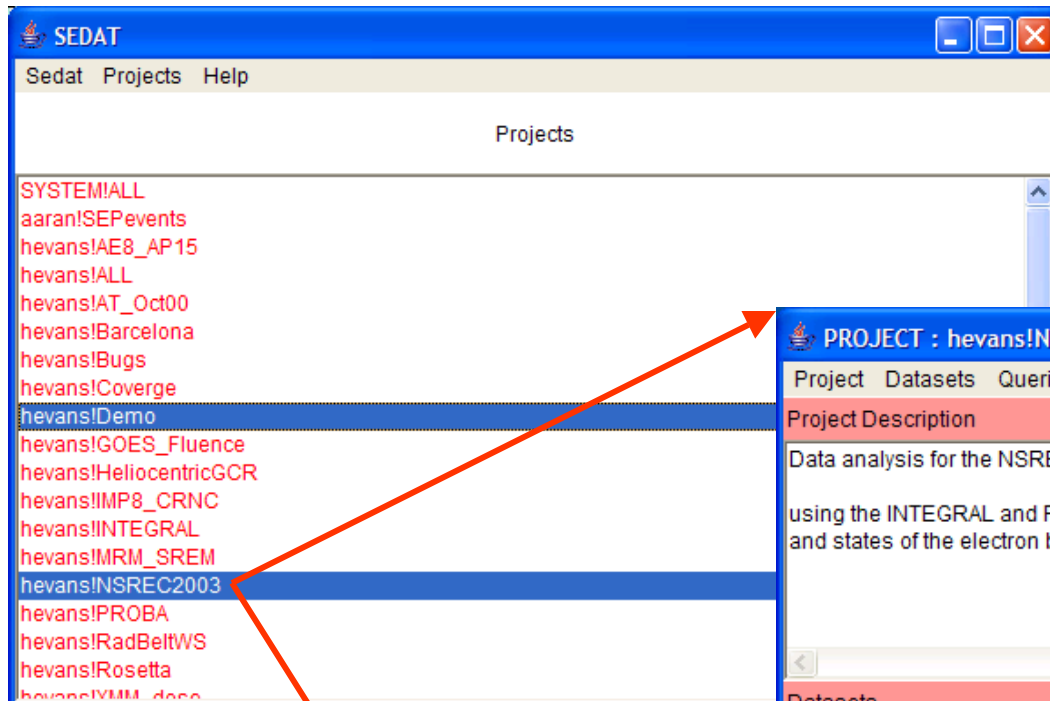


SEDAT Features/Purpose

- Based on RAL's STPDF (Solar Terrestrial Physics Data Facility);
- Allows a user to interrogate multiple datasets with a simplified interface to ask standard/custom questions, e.g.
 - What time periods are fluxes above f ?
 - What is the statistical distribution of SPE fluences (I.e. SEDAT can do model creation)?
 - What do spacecraft a, b, c see at time t , at location xyz ?
 - Fold with effects “functions”, e.g. dose, ...

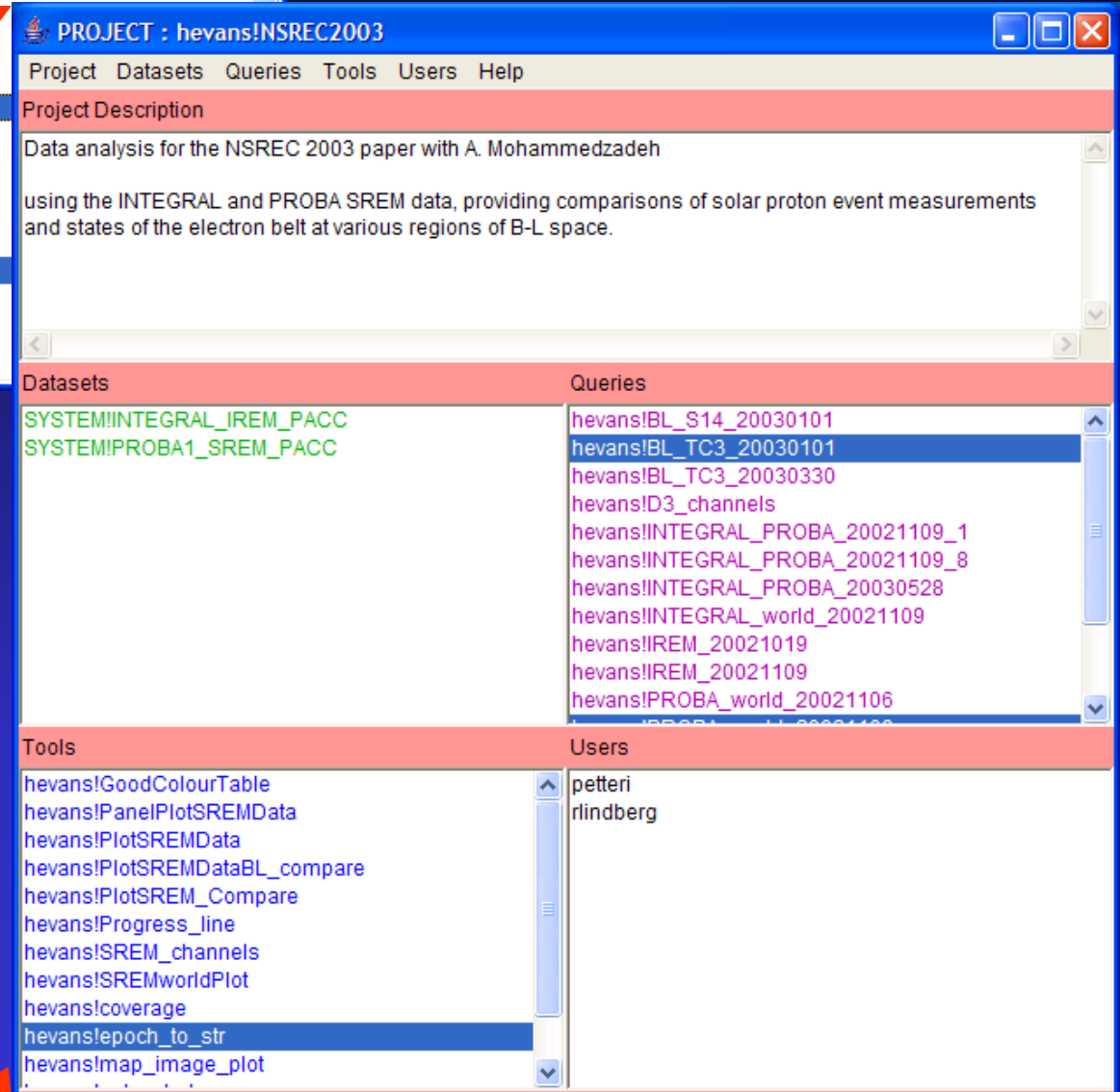
Current SEDAT Datasets

[link](#)



SEDAT “Projects”

Main menu: “projects” owned by or available to a user



A project consists of **datasets**, **queries** and **tools** (which are used in the queries)

Utility Tools

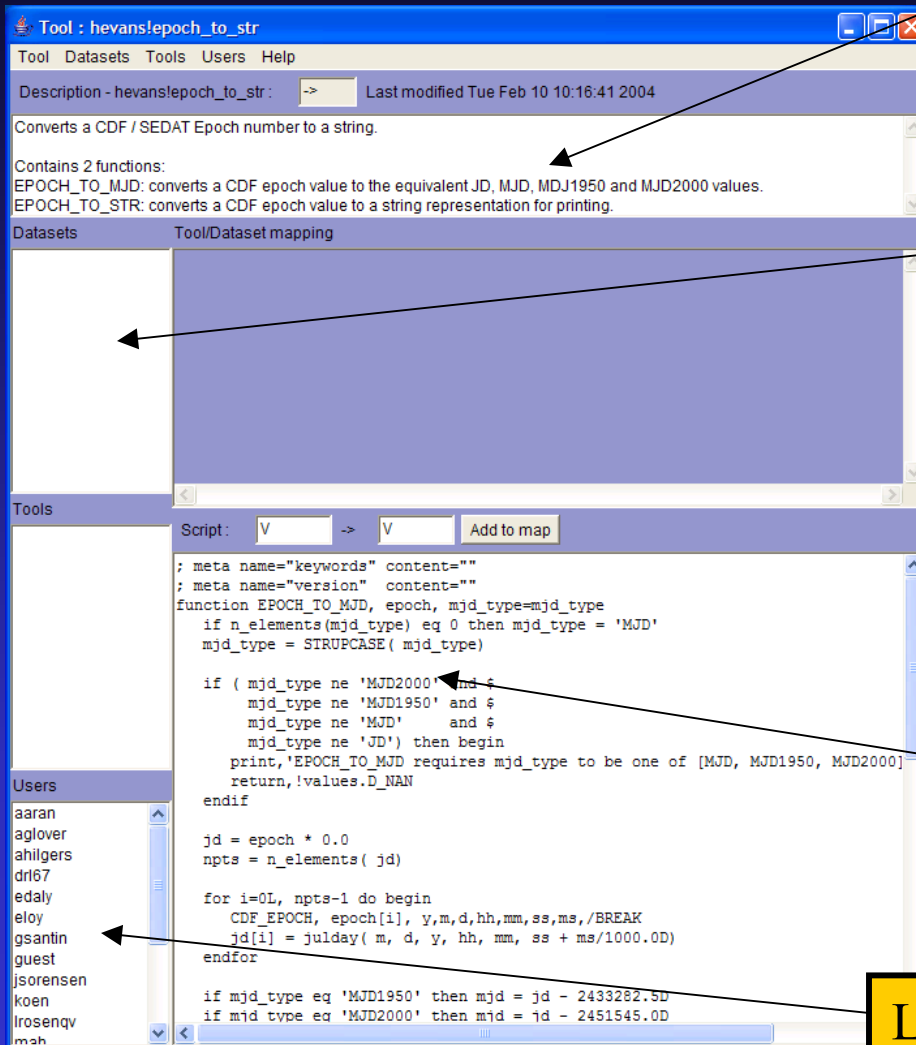
Utility Tool (IDL Subroutines & Functions)

A description/documentation
Of the tool can be included

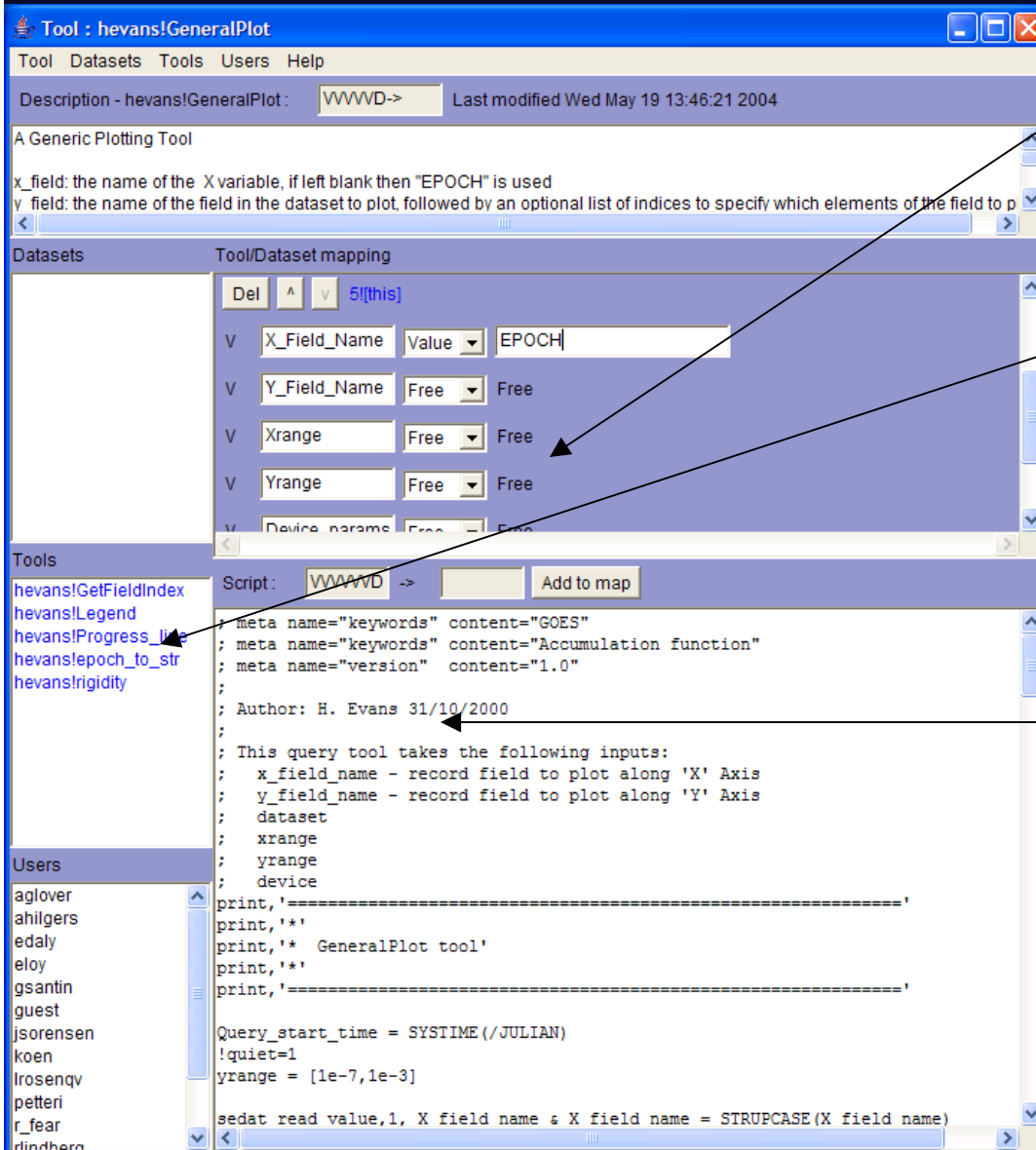
Datasets can be “Encapsulated”
in a tool (not shown in this
example), e.g. a calibration
matrix specific to a counts->flux
conversion tool.

Contains IDL functions
And procedures that can
Be used in a query.

List of Users that can access the tool



Query Tools

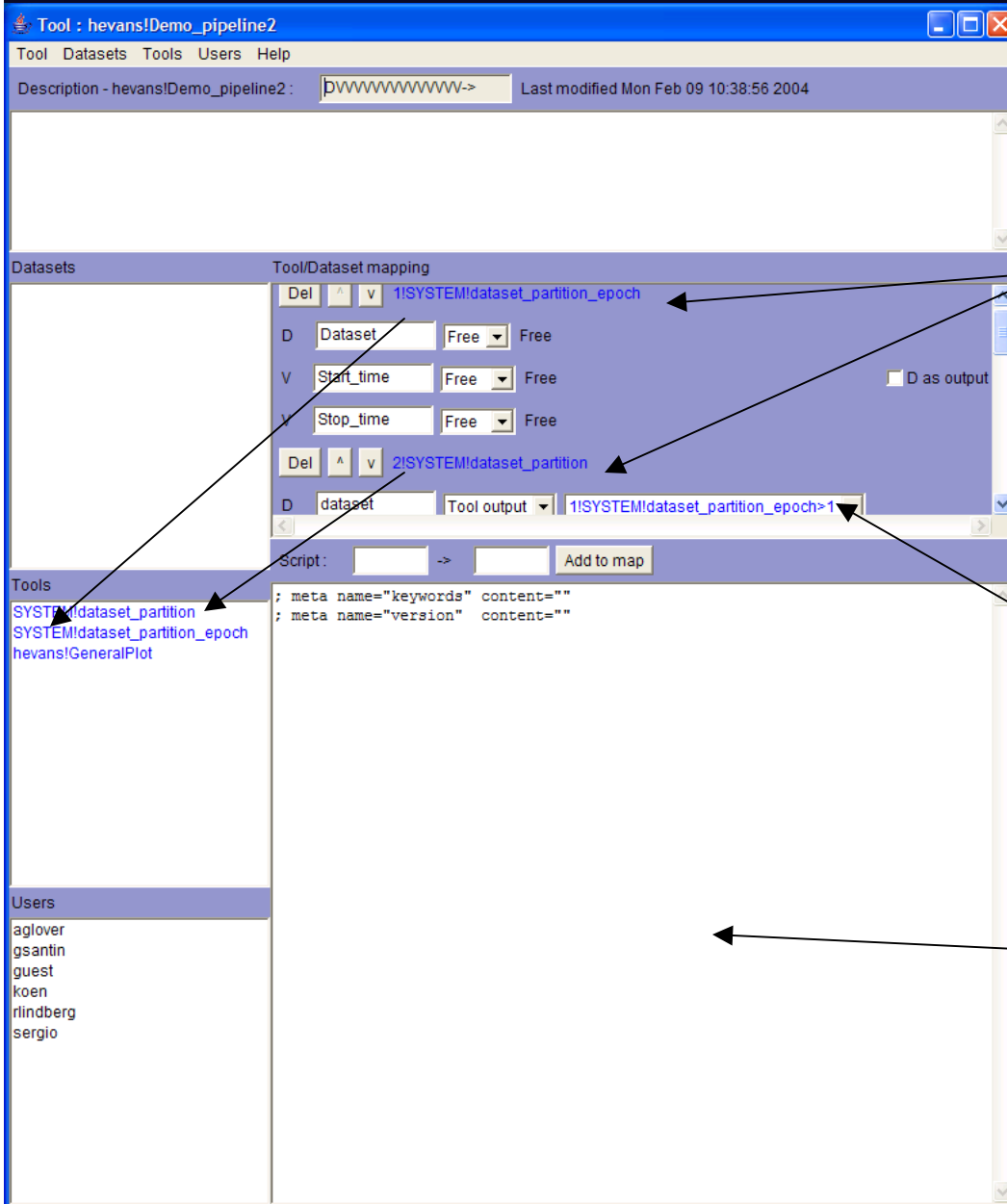


As for Utility Tool, but with Dataset & parameter mapping for Query Building

Other dependent tools can also be specified/encapsulated (also true for Utility tools).

Contains IDL code that will Be run as a query. This is part is analogous to the PROGRAM part of FORTRAN, or Main(argc i, argv c[]) of C/C++ It includes routines for opening, reading and writing datasets, reading parameters from the map, etc.

Query Tools: “Pipelining”



The screenshot shows a software interface for configuring a pipeline. The title bar reads 'Tool : hevans!Demo_pipeline2'. Below the title bar is a menu bar with 'Tool', 'Datasets', 'Tools', 'Users', and 'Help'. A description field contains 'D\VVVVVVVVVV->' and a timestamp 'Last modified Mon Feb 09 10:38:56 2004'.

The main area is divided into several sections:

- Datasets:** A list on the left containing 'SYSTEM!dataset_partition' and 'SYSTEM!dataset_partition_epoch'.
- Tool/Dataset mapping:** A central area with two tool entries:
 - 1SYSTEM!dataset_partition_epoch:** Has input fields for 'Dataset' (Free), 'Start_time' (Free), and 'Stop_time' (Free). A checkbox 'D as output' is present.
 - 2SYSTEM!dataset_partition:** Has an input field 'dataset' set to 'Tool output' and a dropdown menu showing '1SYSTEM!dataset_partition_epoch>1'.
- Tools:** A list on the left containing 'SYSTEM!dataset_partition', 'SYSTEM!dataset_partition_epoch', and 'hevans!GeneralPlot'.
- Script:** A text area containing IDL code:


```
; meta name="keywords" content=""
; meta name="version" content=""
```
- Users:** A list on the left containing 'aglover', 'gsantin', 'guest', 'koen', 'rlindberg', and 'sergio'.

Arrows from the text boxes point to specific elements: the first points to the tool list, the second to the first tool's input fields, the third to the second tool's input field, and the fourth to the script area.

As for Query Tool, but with other Query tools “mapped” into the interface and included in the list of available tools.

The 2nd tool uses the output of the first tool as its input

IDL code **can** be included for processing, but is **not** required - this allows a complex query tool to be built from numerous simple query tools.



Queries

Query : hevans!Demo_pipeline2

Query Datasets Figures Users Help

Query - hevans!Demo_pipeline2 in hevans!Demo : -> Run query

Datasets (Project)

- SYSTEMINSSDC_OMNI2
- SYSTEMIPROBA1_SREM_DACC
- SYSTEMIPROBA1_SREM_PACC
- SYSTEMISAC_C
- SYSTEMISOHO_ERNE_A
- SYSTEMISOHO_ERNE_P
- SYSTEMISTRV1B_A
- SYSTEMISTRV1B_B
- SYSTEMIUARS
- SYSTEMIXMM_ORBIT
- SYSTEMIXMM_RM
- hevans!Create_AP15_20030815150422_1
- hevans!Demo_pipeline_20040203151901_C
- hevans!Demo_pipeline_20040203151901_C

Query/Dataset mapping

1!hevans!Demo_pipeline2

D	Dataset	Dataset	SYSTEMINSSDC_OMNI2
V	Start_time	Value	2000-07-01T00:00:00Z
V	Stop_time	Value	2000-08-01T00:00:00Z
V	variable	Value	PR_FLX_10
V	lower_bound	Value	20
V	upper_bound	Value	1e10

Figures

Demo_pipeline2_20040209142132_EPOCH_x

Demo_pipeline2_20040209153750_EPOCH_x

Query Instances

Halt Delete Demo_pipeline2_20040209142132 Completed

Halt Delete Demo_pipeline2_20040209153750 Completed

Users

- aglover
- gsantin
- guest
- koen
- rindberg
- sergio

Instance Log

Formed from a basic Query Tool, the “Free” parameters & datasets in the mappings from the query tool are completed by the user.

Query instance Datasets are stored.

Query instance logs are stored.

Query instance Figures are stored.



Queries (II)

Query : hevans!DemoXMMRM_Plot

Query Datasets Figures Users Help

Query - hevans!DemoXMMRM_Plot in hevans!Demo : -> Run query

Datasets (Project)

- SYSTEMISOHO_ERNE_P
- SYSTEMISTRV1B_A
- SYSTEMISTRV1B_B
- SYSTEMIUSARS
- SYSTEMXMM_ORBIT
- SYSTEMXMM_RM
- hevans!Create_AP15_20030815150422
- hevans!Demo_pipeline_20040203151901_GenDataSet_1_1
- hevans!Demo_pipeline_20040203152037_GenDataSet_1_1

Query/Dataset mapping

V	Xrange	Value	
V	Yrange	Value	0.1,1e5
V	device	Value	Z,640,480,1
V	Symsize	Value	1
V	Dataset	Dataset	SYSTEMXMM_RM

Figures

- DemoXMMRM_Plot_20040209160022_EPOCH_x_FPIO.jpg
- DemoXMMRM_Plot_20040209160209_EPOCH_x_FPIO.jpg
- DemoXMMRM_Plot_20040209160608_EPOCH_x_FEIO.jpg
- DemoXMMRM_Plot_20040209163614_EPOCH_x_FPDO.jpg

Query Instances

Halt	Delete	DemoXMMRM_Plot_20040209160022
Halt	Delete	DemoXMMRM_Plot_20040209160209
Halt	Delete	DemoXMMRM_Plot_20040209160608
Halt	Delete	DemoXMMRM_Plot_20040209163614

Users

- aglover
- gsantin
- guest
- koen
- rlindberg
- sergio

Instance Log

Tool : hevans!GeneralPlot

Tool Datasets Tools Users Help

Description - hevans!GeneralPlot : WWWVD-> Last modified Wed May 19 13:46:21 2004

A Generic Plotting Tool

x_field: the name of the X variable, if left blank then "EPOCH" is used
y_field: the name of the field in the dataset to plot, followed by an optional list of indices to specify which elements of the field to plot

Datasets

Tool/Dataset mapping

Del	A	V	5[this]
V	X_Field_Name	Value	EPOCH
V	Y_Field_Name	Free	Free
V	Xrange	Free	Free
V	Yrange	Free	Free
V	Device params	Free	Free

Tools

- hevans!GetFieldIndex
- hevans!Legend
- hevans!Progress_line
- hevans!epoch_to_str
- hevans!rigidity

Script : WWWVD -> Add to map

```
; meta name="keywords" content="GOES"
; meta name="keywords" content="Accumulation function"
; meta name="version" content="1.0"
```

DATASET : SYSTEMXMM_RM

Dataset Users Help

Dataset Description

! Skeleton table for the "XMM_H0_ERMD_20011231_V01.cdf" CDF.
! Generated: Tuesday, 4-May-2004 17:04:17
! CDF created/modified by CDF V2.6.7
! Skeleton table created by CDF V2.7.1

#header

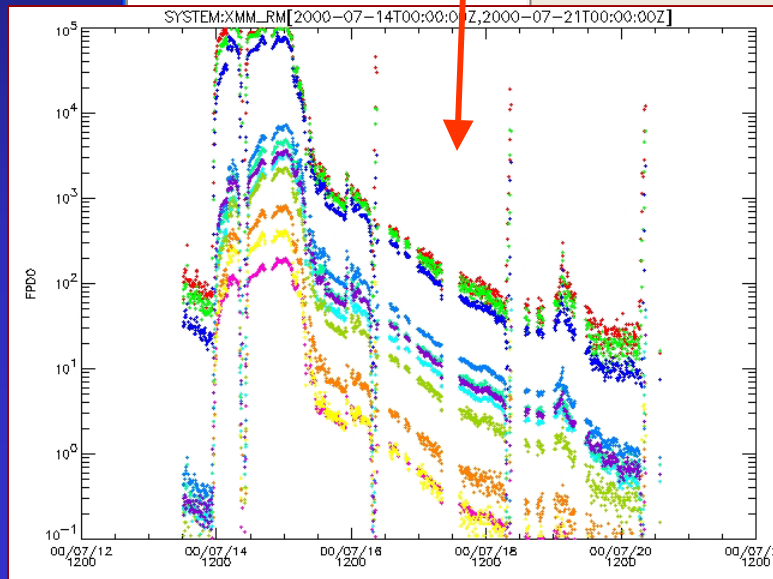
CDF NAME: XMM_H0_ERMD_20011231_V01.cdf
DATA ENCODING: NETWORK
MAJORITY: ROW
FORMAT: SINGLE

! Variables G.Attributes V.Attributes Records Dims Sizes

0/28	25	22	0/z	0
------	----	----	-----	---

Information

Records:	Variables	Users
3128499	Epoch	
	Position	
	Position_LABEL_1	
	Position_Quality	
	B_Calc	
	B_Eq	
	L	
	L_star	
	I	
	MLT	
	Alpha	
	Alpha_Eq	
	FPDO	
	FPIO	
	FPDO_Energ	



Other Aspects

- Users can share all their objects (tools, queries, datasets and projects) with other users.
- All objects include textual descriptions – permitting easy documentation of the objects.
- Datasets and subsets of them can be downloaded in ASCII or CDF format.
- User's datasets can be uploaded (and then shared) in a variety of formats (ASCII, Binary, CDF), but CDF is the preferred format.
- The client runs in Java as either an application or WWW plug-in applet, allowing remote access via the WWW.
- RAL's STPDF provides the dataset access
 - allows derived or virtual fields to be “added” to an existing dataset as it's accessed without reprocessing the entire dataset, or to rename fields to a common naming convention, e.g. “J_p_1%eq_sp_epi” to “P_flux_1”. This simplifies the creation of generic tools.
 - Remote access to datasets on a different server/Institute (a GRID version is under development at RAL).